The Education Digest

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NEW

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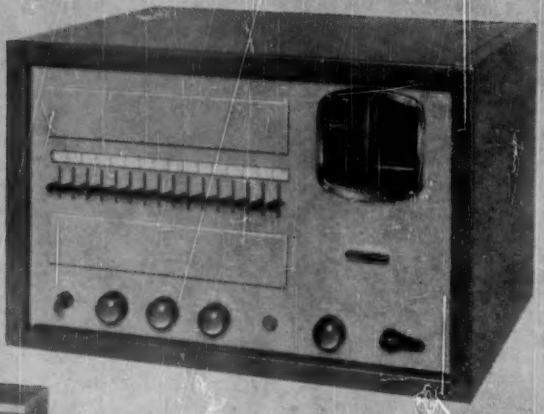

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Volume XXIV September 1958 Number 1

What Are the Tangible and Intangible Supports?

Education and the Foundations of Liberty

GEORGE S. COUNTS

In Teachers College Record

WE in America constitute the most powerful bastion of freedom in the world. If we should falter or grow weary in its practice and defense, the cause of liberty might well be lost throughout the earth—and the earth is getting smaller and smaller by the minute.

This must be a sobering thought to free men everywhere. But how well are we equipped to discharge the awesome responsibilities which history has placed firmly on our shoulders and from which we simply cannot escape by the adoption of the so-called "Bricker Amendment," by withdrawal from the United Nations, by transporting ourselves to another planet, or by any other magic formula? We must realize clearly that the destinies of all free nations are inextricably linked together.

It is in this realm of the fate of human freedom that one of the foremost tasks of the schools, colleges, universities, and all agencies of enlightenment is found. As a people we must achieve an understanding of the foundations of liberty surpassing in both depth and scope that of any earlier generation, not excluding the generation of our founding fathers.

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The rise of demagoguery in these latter years and the attendant indifference to the preservation of the basic rights of the individual constitute a measure of the deficiency of our understanding. Many of us apparently are unable to grasp the dimensions of the dilemma confronting us in our search for national security in a free society. The plain fact is that a large fraction of our people either do not understand the nature of liberty or do not care what happens to it. If we fail to see that the end desired is

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really security for liberty now and in the future, the thing we profess to covet most—our heritage of freedom—may itself be lost.

It is time—in this "time of troubles," and in this "time of promise"—that we should inquire deeply into the supports of our liberty. These supports are both tangible and intangible. The two are closely interwoven. The former are well-known and have received much attention in our generation, while the latter have been all too much neglected. Yet it is in the realm of these intangible supports of liberty that education must play its major role.

TANGIBLE SUPPORTS

Foremost among tangible supports is the factor of power. In setting up the system of checks and balances the founding fathers were keenly aware of the relation of power to liberty. Yet we as the citizens of a free society, if we would remain free, must ever keep our eyes fixed anxiously on the brute facts of power. We must ever be watchful lest some class, caste, sect, party, or faction achieve a monopoly of military, economic, or political power. And at no time in the past was there greater need for such watchfulness than there is in the present age of industrial civilization, when the power balances are marked by rapid, continuous, and even profound change. Particularly fateful for the future of liberty are the new instruments of power created by scientific and engineering genius, notably the new weapons of warfare and the new means of communication by which the bodies of men may be destroyed, and their spirits coerced.

Another tangible support of liberty has been found in the facts of geography. For several centuries the great oceans east and west served countries of the New World as powerful barriers against successful aggression from Europe and Asia. But today the oceans—in this sense—are gone. And the security which they provided, and which is so essential to liberty, is gone too.

There are other tangible supports of liberty which deserve mention. High among them would be economic plenty and security. Also there is the phenomenon of the voluntary association which insures a wide distribution of power under the rule of law. And there are others. But the emphasis here is to be placed on those intangible supports of liberty—supports which are basic to its practice and survival, which at the same time are little understood or appreciated, and which confront education with its major problems and tasks in this realm.

RULE OF LAW

Tangible and intangible supports of liberty are brought together in the rule of law, which, according to Sir Ernest Barker, is "the foundation of foundations" of the Western political tradition. And this tradition assumes its most fundamental expression in the constitution, the "law of laws," the law under which

laws are made and judged, the law which governs the governors, whether people, classes, officials, or monarchs.

Statute laws and written constitutions may be regarded as tangible supports of liberty, but laws and constitutions do not enforce themselves. Why do men obey the laws, why do powerful economic groups submit to the removal of their privileges by legal means, why do the heads of government accept the verdict of the polls, and why do great army commanders fresh from victory on the battlefield abide by the principle of the subordination of the military to the civil authority in accordance with the constitution? It is in this realm that the intangible supports of liberty play their indispensable role.

This issue may be sharpened by reference to the history of constitutionalism which dates from the last quarter of the 18th century. During the century and a half following 1776 and 1789, says Walton H. Hamilton, professor of law at Yale University, "a count of instruments in which peoples embodied their faith runs into the hundreds." Among these "instruments" was the famous Weimar Constitution of the German Second Reich, regarded by many students as one of the best constitutions ever written. Yet it endured but 14 years. And of the hundreds to which Hamilton refers only a handful have actually survived the test of time and circumstance. Many lasted only a few years or decades.

INTANGIBLES

It is the unwritten code of responsibility, loyalty, selfreliance, and moral courage living in the hearts of individual men and women which seems to make the difference. This subject, therefore, takes us behind and beneath the laws, to the very character and genius of a people, to traditions, habits, loyalties, ideals, and values —all intangibles which are as real as guns, lands, factories, and parliaments.

Political liberty, if it is to endure through the generations, cannot mean every man for himself and for the advancement of his narrow, personal interests. Nor can it mean every class, group, association, or party for itself. The maintenance of a regime of individual liberty is thus a wide social undertaking. It cannot be a regime under which the citizen is relieved of responsibility and freed from all restraints not imposed by law or necessity. And "preference of public to private welfare" requires, not the maintenance of things as they are, but a deep concern for the eradication of injustice, the achievement of equal opportunity for all, and the removal of everything that is mean and ugly in the common life. As Carl Becker, an American student of the founding of the Republic, has eloquently said, every right or freedom carries with itself a corresponding responsibility.

It was Lord Moulton, an English student of jurisprudence, who more than a generation ago spoke

of "the domain of obedience to the unenforceable." In his view "obedience to the unenforceable" constitutes the moral foundation of a good society. And this applies not only in the field of politics and citizenship, but also in every sphere of life—in the family, in the church, in industry, in the voluntary association, and in all human and social relationships. The power of law is clearly limited. It can scarcely be expected to make good citizens in a free society, or enforce itself, but good citizens are absolutely essential to both the making and the administration of good laws. Love of political liberty, and even love of country, cannot be compelled by legislation.

OTHER INTANGIBLE SUPPORTS

And the same may be said of a sense of fairness, a spirit of tolerance of differences, an abhorrence of injustice, an acceptance of majority rule, a devotion to the Bill of Rights, an experimental and inquiring mind, and a love of one's neighbor. These great values of a free society—these values which constitute such necessary, though intangible, supports of liberty—can only be incorporated into the character of the individual through the processes of nurture and education. And this end can be achieved, not by encouraging children to pursue their own immediate interests, but by organizing an educational program deliberately and carefully designed for the purpose.

Yet another intangible support of liberty is knowledge and understanding on the part of the citizen of the nature of man and of the world and age in which he lives. The dependence of free institutions on popular enlightenment has been recognized by all the great leaders and spokesmen of democracy since ancient times. And if knowledge and understanding were considered to be a support of liberty in earlier times, how much more necessary they are today!

Here without doubt may be found one of the most fundamental threats to the survival of liberty today and tomorrow. Science and technology have created a society so dynamic in its movements, so mighty in its energies, so wide in its sweep, and so complex in its operations that one is entitled to wonder whether its control may not be beyond the capacity of the ordinary citizen.

It is just possible that here is the "Achilles' heel" of free society in the present age and in the fabulous age which lies ahead. Clearly, if the individual is to acquire the "knowledge necessary for a freeman" in the coming epoch, he must acquire a thirst for such knowledge. This thirst is another of the intangible supports of liberty. Unfortunately it is not a natural and universal possession of man. On the contrary it must be acquired through the twin processes of tuition and learning.

INTANGIBLE DESTROYERS

As liberty has its intangible sup-

ports, so it has its intangible destroyers. And an awareness of these intangible destroyers constitutes in itself one of the essential intangible supports of human freedom. This leads to an examination of the "totalitarian mind," whose elements are always present in some measure in the citizens among a free society.

The true totalitarian regards as right whatever advances, or whatever he thinks advances, his cause. He thus subordinates means to ends, repudiates the idea of objective truth, and is prepared to falsify history and events in the interest of victory. He scorns the idea of human dignity and treats without mercy all who oppose him, whether individuals, classes, or races. He refuses to tolerate differences, and regards those who are not with him as enemies to be destroyed. He glorifies the role of violence in history, employs the language of violence and hatred, and obeys the law only when he is weak.

He is certain of the rightness of his acts and the grandeur of his mission. He subordinates everything to the capture of power. And on capturing power he outlaws all the freedoms of a democratic society, even outlawing the freedom of silence. He seeks to control all agencies and processes for the molding of the mind and rejects completely the conception of the higher law, the law above the state, the right of conscience. He is God. But he performs all of his acts in the name of the welfare of some class, race, or people whom he never consults.

It is the follower of the totalitarian who surrenders his individual liberties when he gives himself completely to the will of this leader. And all the while he believes himself to be engaged in a great crusade for some great good.

A free society must be on guard against the spread of this mentality, an understanding of which should be a major object of education. •

WE are not giving enough emphasis to the basic freedoms in our schools. Too many students come out of grade school and high school without knowing what the Bill of Rights is . . . I think that what we need is a great educational program, an awakening of the people to the great values that are in our civilization. These great values are not our standard of living, fine as that is, but our ideas of freedom, our ideas on the dignity of man, the equality of man, the idea that government cannot do certain things to the individual, that his beliefs, his conscience, and his ideas are his own, and it is nobody's business what he thinks.—*Associate Justice William O. Douglas* in TV interview with Mike Wallace.

1958

A False Conception of Evil

The Devil and Soviet Russia

HAROLD J. BERMAN

In The American Scholar

AN old lady who could never bring herself to speak ill of anyone was asked what she thought of the Devil. "Well," she replied after a pause, "he is very hard-working!"

The old lady understated the Devil's virtues. He is also very intelligent. He knows how to win friends and influence people. In the words of Bishop Emrick of Michigan, writing on *Some Neglected Aspects of Communism*, "the Devil is not a derelict on 'skid row.' He is not a 'bum'; for this type of person is weak, pathetic, disorganized, lacking in will, sick, and not strong enough to stand against a single policeman . . . The Devil is quite different . . . He is patient . . . well organized, disciplined, persuasive, and attractive."

What makes him the Devil, says Bishop Emrick, is that "with all his virtues he is going in the wrong direction; and since he possesses virtues he goes in the wrong direction effectively. The Devil, says traditional Christian thought with profound insight, is a fallen angel."

In both Soviet and American thinking there is a strong strain of puritanism which tends to turn opponents into enemies, enemies into devils, and devils into ugly monsters. An American reading what is printed in Soviet literature about life in the United States can only laugh at the fantastic caricatures that are presented to the Russian people as sober realities. It is a bitter truth that Russians who get a chance to read what is written about life in the Soviet Union in American newspapers, magazines, and books—and today more and more Russians get that chance—also find, often, not reality but a ridiculous distortion of reality.

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It is not for the Russians to complain, of course, if Americans have too black a picture of their country; the Soviet policy of secrecy has been one of the important contributing causes of our misconceptions. But our own press and radio, our own political propaganda, and our own scholarship also bear an important share of the responsibility.

Yet the real reason is deeper than Soviet secrecy, deeper than American one-sidedness in reporting. The fact is that together with

a great deal of rubbish there are also excellent accounts of daily life in the Soviet Union by American correspondents in Russia, and there are many American books which analyze Soviet institutions in an objective and scholarly manner. But American readers of these reports and books all too often simply reject, subconsciously, those images which conflict with their preconceptions.

Two years ago an American newspaper correspondent in Moscow wrote an account of the May Day parade in which he described people singing and dancing in the streets and enjoying themselves thoroughly. His newspaper published the account, but at the same time it ran an editorial in which it portrayed an embittered Russian people forced by their hated government to demonstrate in favor of a revolution which they did not want.

The correspondent, in recounting this to me, said that he thereupon wrote a letter to his editor in which he said, "I was there—I saw it—they were not bitter, they were happy, they were having a good time." The editorial writer wrote back, in effect, that they may have appeared happy, but that actually they could not have been happy, in view of the evils of the system under which they live.

It is probably fruitless to argue about whether or not Russians are happy. It is of critical importance, however, to recognize that *the notion that because communism is evil the people who live under it must be wretched is based on a false conception of evil.*

NOT ALL BAD

It is a false conception of evil which assumes that men who believe in evil doctrines—such as the doctrine of world revolution or the doctrine of the dictatorship of the proletariat—cannot at the same time work to accomplish great humanitarian benefits. It is an elementary fact, for example, that under the leadership of the Communist party of the Soviet Union the number of doctors in Russia increased from about 20,000 in 1917 to about 300,000 in 1957, and that in the same period and under the same leadership illiteracy declined from over 50 percent to less than 5 percent.

It is a false conception of evil which assumes that men who ordered the shooting of Hungarian women and children attempting to flee from terror could not at the same time sponsor a series of reforms designed to humanize conditions of detention in Soviet labor camps and to improve the system of criminal trials in the interest of the accused. The assumption sounds so plausible—yet it is contradicted not only in the particular case of the Soviet leadership in 1956 but also countless times in history. Did not Cromwell, the great restorer of English liberties, treat the Irish with barbaric cruelty? Did not the Americans who fought for the inalienable rights of

"all men" at the same time buy and sell slaves?

Our notion that the tyrant can only do wrong is linked, as I have suggested, to our puritan tradition, with its fire-and-brimstone concept of hell. It is linked also to our national immaturity which leads us to see moral issues in terms of black and white, "good guys" versus "bad guys." It is linked, in addition, to an unconscious desire to cover up our own lack of high common purpose by creating an external symbol of evil, a Moby Dick, through which we find a release from our frustrations. The fire-and-brimstone theory of totalitarianism, popularized in Orwell's "1984" and expounded in learned terms by many of our leading scholars, is comforting to us.

ADVERTISE THE GOOD

But why speak of the positive achievements of the Soviet system, people often ask, when the most important feature of that system is the lack of freedom to defy the party line? And even granting that American writers *have* exaggerated the violence, injustice, bureaucracy, and poverty of life under the Soviet regime, why should we advertise the fact? Don't we thereby weaken ourselves in our fight against communism?

The first answer is that if we have begun to test truth in terms of how useful it is politically, we have already lost the most important battle in the fight against communism. The second answer is that it is only by giving full credit to the positive achievements of the Soviet system that we can prepare ourselves to meet its challenge.

The Soviet system as it exists in popular imagination—with 20 million prisoners in Siberian labor camps, workers ground down by management, every tenth person an informer, people afraid to talk about anything—is no challenge to us at all. Such a system could not survive a single major crisis.

The Soviet system which actually has been created is quite different. It is a working totalitarianism, a viable totalitarian order, capable of surviving the death of its leading personalities, capable, very likely, of surviving even a defeat in war. It is a system which gives promise of achieving the very goals it has set for itself—economic security, political power, and sensational technological progress—by the very means it proclaims: absolute subservience to party discipline and the party line.

THE CHALLENGE

The challenge of this system is that it meets certain real needs of 20th century man—the need for unity and the need for a common social purpose.

It is of no use to fight communism by showing that the materialist aims which it proclaims can be achieved better by democratic means, since the underlying appeal of communism is not only in its aims but also—and primarily—in the process of mobilizing people to

achieve those aims. By creating a mobilized social order, the Communist party provides peaceful outlets for service, selfsacrifice, discipline, and other virtues usually associated with military life.

If we really want to defeat communism, there is only one way to do it. That way is so obvious one would be embarrassed to speak of it if it were not for the fact that it is the one thing that people who talk about fighting communism generally fail to mention. We must construct a social order in which the goals of justice, mercy, and morality take precedence over economic security, political power, and technological progress, and we must freely, through voluntary associations, pour into that social order the same spirit of service, selfsacrifice, and common purpose that under the Soviet system is induced by party discipline.

Otherwise, Khrushchev's prediction that our grandchildren will be Communists may well come true (though of course they would not call themselves Communists but true democrats), and one of the most cherished American illusions may finally be disproved—that good always triumphs over evil. •

The Devil and the Teachers

• Let's face it—the American people are suddenly afraid and they are seeking a scapegoat in teachers. What the Jews were to the vengeful Nazis, the teachers are now in the U. S. to a powerful clique that guessed wrong. Their guess was that teachers were unimportant in world affairs . . . What the Russians have, and are boasting about—joined by some articulate Americans—we deplore. It is a monolithic, party-dominated system headed up by one man. In Russia, variation amounts to subversion; local responsibility is an illusion; parental or pupil choice, a rarity. Do we really want that in America?—*George D. Stoddard,* New York University.

• For a long time, there has been a feeling in America that the teacher must not intrude—the school must be neutral. This idea is gradually changing. As we train our youth, we must realize that the world of tomorrow will be no place for halfway hesitant people who do not know what they believe, or in whom they trust, or to what they are loyal.—*Henry Shaw,* Columbus, Georgia.

1958

The Trend Is toward Flexibility

Promotion and Reporting Practices

In National Education Association Research Bulletin

CERTAIN critics of the public schools say that the spirit of competition, an important incentive for learning, has been eliminated by the 100 percent annual promotion policy and the multiple-standard report card.

The proponents of this charge state that promoting pupils from grade to grade with little or no consideration of their academic achievement is depriving the boys and girls of an incentive needed for doing their best work. They say that the spirit of competition among pupils, once widespread in the public schools, has been lost. Schools no longer report to parents the comparative standing of their children.

The supporters of automatic promotion and the multiple-standard report card say this: It is possible, though not certain, that high rates of nonpromotion will uphold academic standards. But the school program and the methods of teaching should be adapted to children as they are and not to a mythical standard of academic achievement. On the basis of this philosophy of education there is no defense for any administrative policy except that of 100-percent promotion. However, relatively few schools today do practice automatic promotion, and many educators do not support the idea.

Reported from "Ten Criticisms of Public Education," National Education Association Research Bulletin, *XXXV* (*December* 1957), 148–52.

According to the dictionaries *promotion* is moving a pupil from a grade, which he has satisfactorily completed, to the next grade. The interpretation of *satisfactory completion of a grade* ranges—in practice—from achievement of a rigid standard to a policy of automatic, no-standard promotion. Between these two extreme interpretations are many types of promotion—annual, conditional, double, enrichment, flexible, individual, probationary, quarterly, rapid, selective, semester, and subject.

Several studies have been conducted on the various effects of promotion and nonpromotion and the purpose of promotion has been reevaluated. Some of the most pertinent studies have caused public schools to move away, in different degrees, from the rigid promotion practices. For example, in one—conducted in the Long Beach, California, public schools—two groups of potential failures were equated. One group repeated the grade, and the other group was promoted on trial. Educational tests were given both groups. It was found that the

children of normal ability gained more from trial promotion than the children of equal ability who repeated the grade. Children of less than average ability gained a little more by repeating the grade than they did by trial promotion.

NONPROMOTION STUDIES

Other studies have found, among other things, that nonpromotion did not result in homogeneity of achievement and that nonpromotion usually intensified children's emotional instability.

The conclusions drawn from certain other studies, however, are less favorable to the policy of 100-percent promotion. Chester O. Newlun has suggested that, in general, 100-percent promotion has an adverse effect on the pupils of normal intelligence. Such pupils discover that they will be promoted whether they learn anything or not and, therefore, learn to get by without doing their best work.

Others studying slow-learning pupils promoted by chronological age, have declared that such children find themselves in situations where group activities are beyond their intellectual level. They believe that such a situation may contribute to mental and emotional instability among the slow learners.

In the matter of reporting student progress the standard of evaluation has to be considered. Is the standard an individual one, is it by class standards, or is it determined by standardized scores? And then, by what means can this information be most efficiently and effectively communicated?

There are four main types of instruments used in reporting to parents: report cards or booklets, narrative or letter reports, conferences between parents and teacher, and combinations of different reporting methods.

Both parents and superintendents have been queried regarding the type of reporting they prefer. One study showed that a majority of parents want the 5-point rating scale used. Next in order were those who like a number grade based on 100 percent and then those who wanted an informal letter written by the teacher. The smallest number of parents wanted a conference between teacher and parents held periodically. Another study found that the largest group among superintendents questioned favored a combination of report card, letter, and conference. The smallest number favored the report card only or a descriptive letter only.

As to actual promotion practices, school surveys have shown that the small school systems have tended to promote annually and the large school systems have tended to promote semiannually. Now the practice of annual promotion is growing since comparative studies indicate that semiannual promotion has little if any advantage over annual promotion.

Henry J. Otto, in his study of promotion policy and practice, reported that out of 1702 elementary-school classroom teachers question-

ed, 10.5 percent failed only those who they believed were sure to profit by retention. And while 7.5 percent of these teachers used chronological age as a major factor in promotion, only 1.6 percent of the teachers practiced 100-percent promotion.

But the number of pupils repeating grades in the elementary school is decreasing. In 1909 Leonard P. Ayers, reporting on "Laggards in Our Schools," stated that the average rate of failure in all grades to be 16 percent. Recent studies show a downward trend in the number of failures. Carlton M. Saunders reported that during a period of approximately 20 years the average rate of failure in large cities dropped from 8.7 in the early 1920's to 4.0 percent in 1938-39. A similar downward trend in the number of failures has been reported in the secondary schools.

THE TRENDS

Current reporting practices have also been studied in order to judge what the trends are. In May, 1955, for example, the California Bureau of Elementary Education mailed to 99 superintendents of California city school districts questionnaires dealing with practices in reporting pupil progress. Twenty-seven of the 90 respondents said they used report cards only; 54 used report cards with parent conferences; one used parent conferences only; eight used various patterns at different grade levels.

R. M. Roelfs in his study concluded that none of the junior-high schools he studied indicated complete reliance on informal methods such as diagnostic letters, parental conferences, and the like. He found that the majority of the schools (82 percent) used letters or numbers explained by words or phrases as the basis for their marking of subject-matter achievement. He also found that the *A, B, C, D, F* marking was used by 81 percent of the schools.

In summary it may be said that studies on promotion practice indicate that the number of schools practicing 100-percent promotion is as small as the number of schools practicing a rigid standard of promotion. Surveys of schools indicate a trend away from rigid academic promotion practices to a more flexible multiple-standard policy.

Reporting to parents on the progress of elementary-school pupils is most commonly done by means of a report card using a five-letter system. This system tends to put pupils on a competitive basis. Some schools use only two marks—pass or fail, or satisfactory or unsatisfactory. In elementary schools, conferences, letters, and report cards are used in various combinations, and consideration of individual capacity and achievement is more prevalent than in secondary schools.

Although the studies are not conclusive, they do indicate a warning against rigid arbitrary promotion standards as well as against indiscriminate promotion. •

How Would a Revised Curriculum Help?

Dealing with Problem Youth

ROBERT J. HAVIGHURST

In The Nation's Schools

WE pride ourselves on our special classes for the hard of hearing, the sightless, the retarded, and the physically handicapped. And we are beginning once more to show concern for the gifted. Yet apparently we only shudder over the outbreaks of violence in the schools of New York City and other metropolitan centers, wondering when these sporadic reigns of terror are likely to end. Where the youngsters themselves are going to end, we can reasonably predict.

During one of these incredible crises, we can police school corridors and classrooms, but our business as educators—and parents and citizens—is to prevent from arising in young people such manifest hostilities toward school, teachers, and society. And to achieve this we shall have to start very early in life.

The present general temper of being tough with the young student is both good and bad. It is good for children with the ability to do better work. But it might lead to a punitive attitude toward those who don't and can't do well in school.

In a study the Committee on Human Development at the University of Chicago has been making, we find that most hard-to-understand children are slow learners. They have an IQ of between 75 and 90, as does approximately 20 percent of an average population. Many children in this range of intelligence do passable work in school and go through adolescence without much trouble for themselves or the community, especially if they live in a decent neighborhood. The rest of them, comprising from 5 to 10 percent of the total age group, make up this hard-to-reach group. While some boys and girls with greater intelligence also have difficulty in growing up, this one definable group comprises the major problem with which the ordinary high school and community must deal.

What is really needed by the slow learners is a simplified academic program combined with some out-of-school experience which assures a youngster that he is growing up. Unless school administrators and school boards are ready to initiate such a program, they had better move in the direction of modifying our child labor laws. For a considerable group of social misfits

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would be better off out of school than in school, as school is conducted now.

REVISE THE CURRICULUM

What can—and must—the school do by means of a revised curriculum? It can nurture the slow learners in the first and second grade, providing them with teachers who are genuinely interested in working with just such children. The ungraded primary room is a good device, for the children can have a two-year or three-year period in which to get started on the essentials, and those who are a bit slow will have time enough to lay a good foundation.

Even so, some boys and girls will reach junior high while able to read only at the fourth- or fifth-grade level. And the junior-high-school years are the critical years. Here should be instituted a specialized program for slow learners graded to their ability level, a program that gives a reasonably clear pathway for growth. For these boys and girls, work experience is essential, as they can get a feeling of successful growing up by earning money and by doing useful work, even if their school performance is discouraging to them. Schools should undertake a patient and persistent program of finding jobs for these children and supervising their work.

Of any school program for slow learners the most important element is the teacher. Good teachers can be found. Some teachers prefer to deal with slow or maladjusted children and take a dedicated attitude toward the work. Teachers are entitled to more pay for this difficult work in a difficult school. While the teacher is vastly more important than the teaching aids or equipment, these, too, should be supplied. An after-school recreational program under well-qualified and well-paid supervision is a necessity.

Too, hard-to-understand children require more visiting teachers and more skillful counseling. These services also are costly. In fact, a program that will suffice for the maladjusted child is bound to cost half again as much—or more—than is spent on teaching the normal child.

EXPERIMENTATION NEEDED

For those children called by the sociologists "hard to reach"—who are forced to remain in the classroom until they are 16—there needs to be some radical experimentation with the school program. Who is to perform such experiments?

Suppose Chicago or Detroit, for example, should decide to try for early detection of troublesome children on an experimental basis. Not anticipating the bliss of getting tax funds for a purely research project, the school administration and board of education would approach one of the foundations and ask that it underwrite an experimental program. Having obtained an appropriate grant for a five-year program, the board would enter into a con-

tract with a nearby university department of education to direct the research. It might designate five schools in disadvantaged neighborhoods for the experiment.

If the findings of the five-year study should point in a definite direction, then school administrator and board could approach the taxpayers for funds to serve this specialized group on a citywide basis. Thus another forgotten group would be served—this one to the incalculable benefit of our society.

At such a proposal in any school system, immediate resentment would flare up among those with a vested interest in present programs for delinquent youngsters. Yet these special schools, as they exist in large cities, are little more than custodial institutions. Their students have been dumped on them too late for correction, let alone prevention. Only early detection of these hard-to-understand youths will prevent them from becoming serious problems.

Now what can society do for these youngsters? It can examine existing child labor laws to find out whether they may not be unnecessarily limiting the opportunities for boys and girls over 14 to get wholesome work experience. It can develop and enlarge wholesome recreational programs for teen-agers, giving them a chance to get excitement and pleasure under circumstances that do not deprave.

Now let us speak again of the semidelinquent youths who are causing so much trouble nowadays. It is too much to expect that all of them could have been reformed by better social and educational measures, but there are not very many in the truly extreme group. The troubles in New York City appear to have been caused by only one half of 1 percent of the age group.

No state in the nation has the right sort of institution to deal with these extreme cases. Reformatories don't reform. A helpful device might be a work camp in every county, where wholesome outdoor jobs could be done under discipline. A youth authority in California is dealing in this way with a small group of delinquents. Heretofore school administrators have shown great reluctance to the setting up of an authority parallel to the school. Perhaps schoolmen, by broadening their concepts on this point, would welcome some agency that would take the responsibility for continued treatment of such delinquents.

A costly procedure this! How much cheaper in comparison would be a preventive program such as the public schools can put on through a simplified academic program for slow learners. •

A JUVENILE delinquent is a teen-ager who wants what he wants when he wants it and won't wait to get it.—Constance F. Murphy in *The Massachusetts Teacher*.

No Inspectors or Superintendents

What Can We Learn from the Swiss Schools?

BURTON W. GORMAN
In Phi Delta Kappan

THE Swiss nation encompasses only half as many people and only one-third the land area of the state of Ohio. Yet here is a people whose craftsmanship and intellectual leadership are world renowned. Is it possible that a superior program of education has contributed markedly to the capacity of the Swiss people to maintain an outlook which is liberal, peaceful, resourceful, and prosperous?

The schools of Switzerland, like those of the United States, have been nurtured in an atmosphere of freedom and democratic control. However, in contrast to our more or less aimless wandering in the realm of educational ideas and ideals, there seems to exist in Switzerland a considerable body of educational theory that is generally accepted and widely diffused. Johann Heinrich Pestalozzi, one of the most widely recognized educational theorists of all time, is a national hero with the Swiss people. His writings are intensively studied by teacher trainees, and they are widely read by parents as a guide to the rearing of children. Thus is promoted a unanimity of educational outlook found in few, if any, other nations.

It can be taken for granted that the Swiss schools are modern with respect to program and physical equipment. There are, however, pervasive and distinctive features which on close examination appear to deserve special consideration.

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Reported from Phi Delta Kappan, *XXXIX* (*May* 1958), 346-49.

Comments made here relate to practices noted in the canton of Zurich, home of one-tenth of the five million Swiss people. The pattern here is somewhat representative, just as the schools of New York State are similar to those of the remainder of our nation.

Some of the distinctive features of education in Zurich relate to aspects of the teacher-preparatory program. Teacher preparation starts much earlier (at the 10th grade) than in the United States and is more intensive. Secondary-school teachers must go through the same preliminary preparation as elementary teachers.

The teacher begins to work with pupils, that is, to engage in a type of student teaching, as soon as he begins to study professional education—that is to say, in the fourth year of the teacher's high school

(*Unterseminar*). Laboratory or total living experiences early become a part of the teacher-training program, trainees taking part in such activities as skiing and camping trips.

MUSIC AND ART REQUIRED

Generally speaking, the Zurich teacher is more broadly trained than the American teacher. For example, teachers in the *gymnasium* (an academic secondary school) must qualify for the doctorate through study at the university. They follow one of two tracks: history and languages, or mathematics and science. A further example of the breadth of training is seen in the requirement that music and art be studied in all four years of the *Unterseminar*. Art must be continued in the fifth year (*Oberseminar*), although music at this level is optional. The foreign language requirement, as in most European countries, starts earlier and lasts longer than is the case in any part of the United States. Teachers also receive instruction in industrial arts or crafts two hours per week, fitting them to develop features of project learning.

That this broad background of preparation is recognized in teacher salaries is evidenced by the fact that average annual teacher earnings in Switzerland are three and three-tenths times the average per capita income. A comparable figure in the United States is only one and nine-tenths.

As might be expected, the training in art and music, commented on above, is very much in evidence in the classrooms of Zurich teachers and to a degree not found anywhere in American education. Yet there are no special teachers of music or art. Every teacher knows and uses these subjects. Singing is fused with all types of learning. It may start a lesson in history or close one in mathematics. Art is evident in the total room environment, adding to the cheerfulness and livability of the school room. Student work is generously displayed at all levels. It is evident in pupil notebooks, where the writing is neat and legible, the margins regular and well-defined, and the themes illustrated by pupil drawings. Nowhere is there the commercially-produced workbook common in American schools.

The teacher is artistic and precise in placing the simplest illustration or diagram on the chalkboard. It is here that his artistic development shows itself best, for a portion of his art course has been devoted to drawing on the blackboard, and he uses colored chalk generously and interestingly.

In spite of all this, there is nowhere any evidence that music and art are used as a substitute for serious attention to reading, writing, arithmetic, and spelling. Rather, they appear to be used to motivate development and to enhance attention given the fundamental curriculum. The Swiss reputation for unerring exactness, the national capacity for mathematical accuracy as

evidenced in watch and clock manufacture, are indications that this is true.

In Swiss schools, democracy of organization and practice reaches heights unknown in schools of the United States. Furthermore, it seems to be matched by the personal and academic freedom accorded teachers. There are no inspectors or superintendents in the schools of Zurich in the sense that these offices exist in American schools. So far as such supervisory positions are needed, the jobs are passed around. Likewise, there are no principals or headmasters in the various school buildings. Teachers take turns being head teacher. Probably because teachers at the secondary level have undergone the training of primary teachers as a preliminary to further preparation, the jealousy and fault-finding so often characteristic of the relationship between elementary and secondary teachers in the United States is missing. A remarkable mutual respect appears to exist at the various educational levels.

Perhaps most distinctive of the democratic features of Swiss education is the method by which a teacher comes to a particular position. Having passed the training hurdles and having served an apprenticeship of at least 14 weeks as a substitute, a teacher is admitted to the election list, for Zurich teachers are elected by the adult males of the community to serve a term of six years, at which time they must stand for re-election.

Teachers are expected to be active in the political, social, and cultural life of the community and their political beliefs or activities seldom jeopardize re-election. For example, one small community about 40 miles from Zurich has as one of its teachers a very active leader in the liberal party and, although it always votes conservative on other matters, the community has repeatedly returned this liberal-minded teacher to his post. Many teachers serve as members of the legislative body of the Swiss Federation and as members of the cantonal councils.

Strangely, this liberalism has in some ways never reached Swiss women. They do not yet have the franchise and an effort has been made to limit the number of female teachers, especially prior to 1941. Consequently, teacher ranks at all levels are still dominated by men.

Freedom of speech reaches a new high among the professors of Swiss universities; it is guaranteed by the constitution. No political or social source is able to interfere with freedom in teaching and research. This is an outward expression of an inner feeling that the university represents the scientific conscience of Swiss society. This extraordinary freedom, however, is not construed to mean freedom from responsibility. All Swiss educational institutions are geared to a consciousness of their obligation to better the society which nurtures them. The Swiss brand of loyalty would not have it any other way •

Group Thinking Is Not Always Wise Thinking

Does Faculty Participation Produce Curriculum Improvement?

KIMBALL WILES

In Educational Leadership

FOR a number of years it has been asserted that faculty participation will bring about improved school programs. In some schools such a method has seemed to work. In others both faculty and administration have been frustrated in their attempts to implement it. Is there any validity in the idea or is it a fantasy which has gained credence through repetition?

Although the hypothesis has not been tested by carefully designed research, certain studies in industry and education supply evidence as to its validity.

The work of George B. DeHuszar, as reported in *Practical Applications of Democracy*, suggests that participation in decision making will result in the securing of more ideas and the consideration of possible solutions. He gives as an example the attempt of the manager of a department in a manufacturing plant to improve the truck used for transporting materials within the department. The five operators of the truck were called to his office one at a time and were asked for suggestions. The employes were shy and reticent but each suggested one way to improve the truck. Still dissatisfied, the manager called all five operators together, told them they knew more about the truck than anyone else because they worked with it every day, and asked them to suggest improvements. He then left them to work out their recommendations together. Fourteen suggestions resulted.

Kimball Wiles is Professor of Education at the University of Florida, Gainesville. *Reported from* Educational Leadership, *XV* (*March* 1958), 347-50.

If the experience reported by DeHuszar is typical, it would seem that faculty participation in decisions may provide the opportunity for the faculty to choose from among a wider range of solutions because of the greater number of possibilities suggested. One caution that needs to be considered before making this interpretation is that these operators had had much experience working with the truck. Sometimes faculty members are asked to consider problems with which they have had very little experience and they do not have the background out of which to formulate recommendations for desirable changes. Do suggestions made by someone without experience with the particular problem have sufficient significance to justify their consideration?

Another industrial experiment conducted by Lester Coch and John R. P. French, Jr. was on the resistance to change. In the light of the evidence these men collected, it would seem that decisions concerning change in program should be made by the people who will be asked to implement it. Plans as to how to proceed, they believe, should be thought through either by all members of the group or by representatives who have close contact with all members. Applying their findings to education, it would appear that any administration that attempts to make decisions concerning change and how to effect it without involving faculty members in the decision courts lowered morale and lowered efficiency.

Some experimentation useful in the education field has been conducted by Harold J. Leavitt. The results suggest that faculty participation in decision making is necessary if faculty members are to continue to be interested in the development of the program of the school.

LEAVITT'S EXPERIMENT

In Leavitt's experimentation, four problem-solving groups were set up. Each group contained five members. One group was seated in the form of a Y, one in the shape of an I, another as an X, and the fourth in an oval arrangement. In the I, X, and Y groups, the problem and the data were fed into the leader, who was situated at the center of the I, X, or Y. The physical arrangements were such that information had to be passed along from one individual to another. The leader had to decide on how the problem would be attacked and which phases of the problem and which data should be made available to each member of his work team. In the O group, the problem and the data were made available to all members.

In the beginning the X, Y, and I groups solved more problems more accurately than the O group. More discussion and analysis occurred in the O group but the interpretations were not as clean cut. As the work proceeded, however, the O group became more productive than the I, X, or Y. It was not that efficiency in the O group had increased noticeably. The change in this relative productiveness occurred because the persons at the ends of the I, X, and Y groups, who did not have access to the definition of the problem or the data except as a portion of the information was passed along by the leader, lost interest. There were three people who remained most interested throughout the entire experiment. These were the persons who were in the leadership spot in the I, X, and Y groups. On the other hand, interest remained high for all the people in the O formation.

The Leavitt research suggests that when the identification and definition of problems and the amount of data are restricted, the faculty members who are on the fringe will lose interest in the de-

velopment of the program while the portion of the faculty in the inner circle will continue to be highly motivated and to be highly professional.

NOT ALWAYS WISE

But group thinking will not always result in wiser decisions. It may result in agreement on error. Compounded ignorance does not equal wisdom. Any faculty needs to be sure that in its work procedures time is provided for the collection of evidence on which to base decisions. A decision made on the spur of the moment without taking the time or making the effort to collect sufficient data to make an intelligent decision may result in a deterioration rather than an improvement in the school program.

One study made by Woodrow Sugg deals directly with the effect of participation on program improvement. As a part of the Kellogg Leadership Project at the University of Florida, Sugg selected the 24 most autocratic and the 24 most democratic out of a total of 125 principals in one county system for study. Democratic operation was interpreted to mean bringing people in on decisions that would affect them, informing teachers and students of actions before they were taken, and respecting the welfare and dignity of individuals. Authoritarian action was considered to be the opposite of this pattern. No principal in the study operated democratically more than 70 percent of the time and no principal failed to operate democratically at least 30 percent of the time. Thus the comparison was between the effect of relatively more democratic behavior and the more autocratic behavior of principals.

SUGG'S FINDINGS

Sugg found that in schools with more democratic principals teachers were more ready for curriculum change, were not threatened as much by change, and were making more changes in their work, more courses were modified and more changes were made in school services, daily schedules, and guidance procedures. On the basis of Sugg's research, it would seem that if a principal hopes to carry on a program of continuous curriculum change he should involve the faculty in the decision making.

Needless to say, change does not mean improvement. Judgments concerning the quality of the change depend on values held by the individuals making the judgment. Nevertheless, evidence from such studies as are available leads to the conclusion that participation of the faculty in decision making will result in higher morale, maintenance of interest, and willingness to change. None of this guarantees that the changes will be more intelligent or improve the program. Whether improvement is made will be determined by the quality of the group problem-solving process used. Securing participation is not enough.

Skills Are Needed for the Future

Education — The Vital Element

JAMES P. MITCHELL

In School Shop

CHALLENGED by the changing nature of work in an industrial society in which rapid and radical technological change is almost commonplace, the American worker has very large areas of responsibility and opportunity.

He has the responsibility to get the kind of education and training that will make him the skilled, creative worker he must be in order to compete and contribute in the complex labor force of the future. And he ought to have ever-increasing opportunities to avail himself of that kind of education and training.

In any discussion of the acute need to develop quality workers for our expanding economy and our vital defense system, the role of industrial education is of high importance. Much of the load in the motivation, preparation, and development of young people for jobs in skilled and creative occupations necessarily falls on the vocational schools, as it falls on the purely academic high schools, on the grammar schools, on the colleges.

When we speak of the need to identify and develop skilled and creative manpower, we are not dealing in ideals but in hard necessities, the facts of life.

We must develop skills for the future from our present manpower supply. The nation cannot expect that the workers it needs will fall from heaven. Preparing for the future comes down to a question of coaxing the best out of the people who are available here and now. The fruitfulness of American labor is the paramount issue of an era marked by great technological complexity and promise—and by persistent international strain. Only the most virile kind of national economy will suffice to meet the needs of our expanding population and the demands of our defense establishment.

James P. Mitchell is United States Secretary of Labor. Reported from School Shop, XVII (*April* 1958), 7–8.

The economy must grow enough by the year 1965 to provide $560 billion in goods and services for a population exceeding 193 million. It is true that the labor force will include 10 million more workers by 1965 and, in terms of *quantity* alone, this would seem to be an adequate increase—especially since machines and industrial methods are improving so steadily.

But the very machines and techniques which promise such thrilling improvements in efficiency and productivity also demand a very

special kind of manpower. And what we have already seen of industry's hunger for skilled workers is a powerful clue that we may be confronted, in 1965, with a painful shortage of capable people to make, man, and maintain those wonderful machines that are now taking shape on the drawing boards of industry.

THE 1965 PICTURE

Recent studies by the Department of Labor indicate that an adequate labor force in 1965 will require two million additional professional and technical workers — engineers, teachers, scientists, draftsmen, physicians, and so on. We will need, also, an additional five million skilled and semiskilled industrial workers, and 4½ million more managerial, clerical, and sales workers. At the same time, the number of unskilled workers and farmers and farm workers will have declined.

From what sources will we draw this highly trained and highly skilled labor? We will have five million more workers 45 years of age and older and 4½ million more youngsters under 25 than we have at present. There will be no increase in the prime working age groups between 25 and 44 years of age; as a matter of fact there will be 150,000 fewer men aged 25 to 34—a decline only partially offset by a 600,000 increase in the 35-to-44 age group. Of the 10 million net increase in workers of all ages, more than five million will be women and over a million will be members of minority groups.

Under today's hiring standards, workers with these basic characteristics are not the ones whom most employers prefer to hire. Yet this labor supply must be used to the best advantage because it will be all we have. It is perfectly evident that we must move now to provide opportunities for these people—women, older workers, minority workers—to acquire the skills which the industry of 1965 will need.

And it means that the young people who are now in high school are going to need an extra measure of skill and knowledge in order to make up for their relatively small numbers. To the school administrator and to the teacher, this means increased effort—in addition to what is already a heavy load—to give students the kind of strong background they will need to get the most out of apprenticeship courses, on-the-job training, and training on higher levels.

Education, industry, labor, and government—all have vital roles to play in the future development of the labor force. A skilled, creative, versatile labor force is the invigorating factor in our efforts to achieve a more productive industry and an increasingly just and happy society.

Such a labor force cannot be created overnight. The acquisition of skill is an arduous and time-consuming process. It begins in the home, is nurtured in the schools and colleges, and is brought to fruition on the job. But it does not stop

there. Workers must constantly adjust to technological changes, adapting their skills to new techniques, building new skills. Training and education are lifelong processes.

For the boys and girls who are today in the elementary grades and the early years of high school, the process is just beginning. Their need for competent, imaginative teachers and a well-rounded course of study is immediate, for they will be the core of the labor force of 1965—and of 1975, 1985, and beyond.

The character of our employment market is such that a high-school diploma is fast becoming the young jobseeker's minimum credential; the nuclear physicist needs more education than the machinist, but both need the same *basic* education. Industry makes a realistic argument for adequate education when it points out to young people that it has increasingly little use for the untrained.

When this is so patently the case, it makes sense for all the forces of the community to combine in an effort to equip its young people to be the most productive and skilled workers it is possible for them to be.

The community which does the most to develop the skills of its own people and keep them at home very likely will find itself in an advantageous competitive position in years to come.

Every community will want to take a fresh look at its school system in the light of its own manpower needs. School-industrial committees might be formed to determine how industry and government can aid the schools.

Endless ways must be found to bring home the importance of training to youth and to provide the incentives and the encouragement which youth requires.

Other activities in which exploration might well bear lasting profit include career days to inform students of opportunities in local industry and to motivate them to prepare properly for hometown careers; a well-planned and lively program to keep teachers abreast of changes in technical needs and processes; an arrangement under which industry could supply equipment to the schools for vocational training; cooperative programs in which vocational students could divide their time between the classroom and the job as a means of emphasizing the importance of education to youngsters who might otherwise quit school and take a job which would not use their best abilities; and the establishment of a scholarship committee to assemble information on sources of financial assistance to capable youngsters. •

IT'S right to be contented with what you have but never with what you are.—*York Trade Compositor.*

From an Australian's Point of View

Mathematics Teaching in American Classrooms

A. W. Jones

In The Mathematics Teacher

THROUGH the generosity of your government—and Americans can claim to be the most generous people in the world—I have been able to spend six months visiting, observing, and participating in your secondary schools. The editor of *The Mathematics Teacher,* who learned of my experience as a mathematics teacher and author of textbooks in Australia, has asked me to give you my impressions of mathematics teaching in American high schools as I saw it. I would rather put my name to an article on the many features of American education that impressed me favorably, and there are many. On frequent occasions, in print and from the public platform, I have lauded American youth, their personal charm, and social poise. There is not much wrong with a school system that can produce such a high percentage of fine young people. It is an unfortunate result of the frankness and uninhibited statements of Americans that the world hears only of the doings of a small minority of your youth.

I must confess that I did not come to America specifically to study mathematics teaching. My field of study was administration and supervision. Consequently, I visited state departments of education, superintendents' offices, universities and colleges. But as one who believes that all administration and supervision should be aimed at improving instruction for the better education of children, I found myself attending as many schools as possible and quickly getting into classes at work—more often than not mathematics classes.

A. W. Jones, of the Education Department, Adelaide, South Australia, was one of two Australian grantees in the 1956-57 International Teachers Education Program sponsored by the U. S. Office of Education under the Smith-Mundt and Fulbright Acts. Reported from The Mathematics Teacher, *LI (May 1958), 344-49.*

The schools I visited were not chosen for their excellence in mathematics and, consequently, they will make more valid my statements about the general run of mathematics teaching in American classrooms.

To give more point to my observations of American classroom practice, I shall make some comparisons between American and Australian techniques.

I am conscious that one is prone to judge his own country's best

practices, those advocated in courses of instruction or curriculum manuals, with actual performance in the foreign country. Naturally I have observed wide departures from this ideal in Australia. But all observers of our two systems will agree that educational publications in Australia give a picture nearer actual practice than is the case in America. That is something our centrally controlled systems do—give a flatness and evenness or maintain a uniform standard of efficiency, according to one's point of view.

The attention given to "mental" or quick "speed - and - accuracy" questions worked without the aid of pencil and paper is given less attention in the U.S.A. than in Australia, where many people consider that more emphasis should be given to it. But then we believe more in formal mental discipline in all school fare than you do.

BLACKBOARD WORK

American teachers have their pupils at the blackboard working in front of the class more than do Australian teachers. There is much merit in this procedure, and I think we should do more of it. I admired the confident way in which the students tackled the task and gave coherent explanations of the work. On the whole, I would give the students a higher grade for blackboard work than the teachers.

American teachers use the blackboard somewhat more than Australian teachers, but certainly much worse. Australian exchange teachers have a high regard for their American colleagues, their professional attitude, and their greater acquaintance with educational thought, but invariably they have been amazed at their shockingly poor blackboard work. Not that the American could not do better, but apparently he sees no value in it. There is no one to point out the defect to him. His principal is only interested that his teaching conform to the school's philosophy of education. The same applies to students' bookwork, as we call it. We place considerable emphasis on neat, logical setting out, with clear figuring easily followed, along the lines of the work the teacher placed on the board. Frankly, much of the students' work (always on loose paper in the U.S.A., but in stapled books in Australia) would not be accepted in Australia.

LESSON PLANNING

American teachers have an advantage of smaller classes. On the average there would be 10 fewer in an American class than in an Australian class. Yet, by and large, the Australian teacher would give more individual help to students, not because the Australian is virtuous or the American is lazy—in fact both work very hard—but because the American spends too much time on verbal explanation and his lesson is not planned as well. I do not mean that the American teacher does not prepare well—he probably does more than the Australian—but he is

loath to let his lessons fit into a pattern or a routine. The Australian pattern tends to be: a brief review or preparation for new work by means of mental questions; brief explanation and discussion with the class of new work; application by the students with the teacher moving among them, guiding and assisting. The Australian teacher, too, would insist that all were following his work at the blackboard, or all applying themselves at individual tasks, even if it means the use of a stern, undemocratic voice occasionally.

Even with a class of 25 students in seventh grade, the composition of these classes in the interests of democracy gives the American teacher little chance of helping individually. What chance would a teacher have in such a class when one girl answered both 9-0 and 8+6 incorrectly, and in reply to 25÷3 said, "I can't do division," while others in the class were able to do "Find mentally the number of 20c pencils for $2.80"?

Australian teachers of mathematics have usually not had the length of training of their American counterparts, but the rank and file would know their elementary mathematics better. I can give some classroom experiences in the U.S.A. to support this claim and you might think my selection of examples unfair. You might say they are exceptions. I hope they are, although my sampling would indicate that such incidents would not be unusual. However, I did see some slick mathematics by both teachers and pupils, particularly where there was a chairman of mathematics with authority and ability and not just seniority. In some accelerated classes, too, I saw some first-rate work.

I saw only one mathematics lesson on TV. One would normally expect quality work from the master-teacher who is going to be observed by many other teachers. It was disappointing.

COMPETITION GOOD?

Was it mere coincidence that the best mathematics I saw was in schools where an externally-set examination was taken by students? Is mathematics a subject in which for its best teaching one needs continually to check standards, get inspiration, ideas, and motivation from examinations set not by oneself, but by the best informed people in the land on the subject and its teaching? G. H. Hardy tells us in *A Mathematician's Apology* that until relatively late in his mathematical education, he still looked on mathematics as a competitive subject.

As a foreign observer of your system of education and of your country, I have not been able to solve the paradox of the relatively unimportant role that mathematics has in the secondary school contrasted with the great importance of mathematics in your advanced civilization and the feats it has achieved.

Are there any signs evident to a foreign observer that mathematics

is likely to assume its rightful place and importance in the secondary-school curriculum? Definitely, yes.

The clamor for greater mental discipline, for more teeth in education, is one. It comes, too, not only from the negative, bitter, and often unfair critics of American education, who see no value in anything not resembling the intellectual education of their childhood, when 10 percent of an age group graduated instead of the present 60 percent. This plea comes from teachers, parents, industry, and even progressive college professors. The trend is evident in steps being taken: regular testing, a return to final examinations, a tendency toward graded classes, publication of courses at state level, a tendency toward more required courses and fewer electives, stiffer graduation requirements including more mathematics, and greater use of guidance.

Another sign is the realization that mathematics cannot be taught by teachers without a sound knowledge of mathematics, its content, and its methods. The summer courses and refresher courses sponsored by various foundations are evidence of this. Industry now appears to realize the importance of the mathematics teacher remaining in schools to teach, and boards of education are making it more and more attractive for the mathematician to remain at the teaching of mathematics. •

• When it became apparent two or three years ago that we were going to experience a severe shortage of scientists and engineers, and that this shortage constituted cause for the gravest national concern, some first-rate minds were put to work to diagnose the problem. Why the shortage? How can it be corrected? . . . When the experts turned to the question of how to correct it, they very soon were brought up short before the great stumbling block of mathematics. You cannot make scientists out of youngsters who have not been adequately trained in the early years of mathematics. And the youngsters who had received such adequate training proved to be all too rare.—From *Quarterly Report of Carnegie Corporation of New York,* January 1956.

• Forty percent of our mathematicians are employed by private industry; 28 percent by the U. S. government; and 32 percent by educational institutions.—From *Sixth Annual Report, National Science Foundation.*

• The mathematician who said the lesser can never contain the greater never worked in a women's shoe store.—Herbert Victor in *Saturday Evening Post.*

Producing Friendly Mental Midgets

Do You Hide Behind Group Process?

JOHN B. BARNES

In The School Executive

GROUP process—like God, like motherhood, and like the American flag—has a fond place in education today. In fact, if you don't have the "groupy" feeling you are cataloged as a poor mixer, rather unsocial, or a confirmed hermit. The importance of the individual has been dwarfed by shoving him into a comfortable, homey, nonthreatening group situation. Group work often is an excuse to loaf along unnoticed, to pass the educational buck, or to haggle over "aims, definitions, procedures."

Two recent statements are worthy of attention along this line. One is the query of a famous educator, President A. Whitney Griswold of Yale University. He asks:

"Could Hamlet have been written by a committee, or the Mona Lisa painted by a club? Could the New Testament have been composed as a conference report? Creative ideas do not spring from groups. They spring from individuals. The divine spark leaps from the finger of God to the finger of Adam . . .

"What shall we say about the endless, sterile, stultifying conferences held in substitution, or in the desperate hope of substitution, for individual inventiveness; the public opinion polls whose vogue threatens even our moral and esthetic values with the pernicious doctrine that the customer is always right; the unctuous public-relations counsels that rob us of both our courage and our convictions? This continuous, daily deferral of opinion and judgment to someone else becomes a habit . . . It conjures a nightmare picture of a whole nation of yes-men, of hitchhikers, eavesdroppers, and Peeping Toms, tiptoeing backward off-stage with their fingers to their lips—this nation whose prophets once cried 'Trust Thyself' . . . .

"Nor shall we recover our self-respect by chasing after it in crowds. Selfrespect cannot be hunted. It cannot be purchased. It is never for sale. It cannot be fabricated out of public relations. It comes to us when we are alone, in quiet moments, in quiet places, when we suddenly realize that, knowing the good, we have done it; knowing the beautiful, we have served it; knowing the truth, we have spoken it."

This rather caustic rebuke takes bravery.

John B. Barnes is Associate Professor of Education, Arizona State College, Tempe. *Reported from* The School Executive, *LXXVII* (*July* 1958), 42–44.

Another critic of the group process is the novelist, John Steinbeck. In his novel, *East of Eden*, he declares:

"Our species is the only creative species, and it has only one creative instrument, the individual mind, and the spirit of a man. Nothing was ever created by two men. There are no good collaborations, whether in music, in art, in poetry, in mathematics, in philosophy. Once the miracle of creation has taken place, the group can build and extend it, but the group never invents anything. The preciousness lies in the lonely mind of a man."

GROUP VS. INDIVIDUAL

Let us admit, however, that the group can be more than a pooling of individual ignorances. It does have many values. These values do not require elaboration here. Nevertheless, the popularity of the group, the committee, the buzz session, the conference team, has detracted from the importance of individual study, of individual initiative. The individual is the person, after all, possessing or developing the skills, insights, and personal qualities of adventure. He is a model of guiding his own destiny. The group is a medium in which submission is rewarded for the purchase of security. This is a case of unfortunate service.

Going [illegible] to the virtues such traits as clear-sightedness, self-discipline, planning, and personal independence. Riding the omnibus with the group also has values—sociability, cooperation, sharing, respect for the views and feelings of others. Right now not many folks like to be pedestrians. But the parasites who ride free in the group are neither effective in the group nor alone. In groups they find shelter, whereas walking alone provides them no such security, for the intellectual trails are unmarked and uncharted. The intellectual softies are quite pleased to find a refuge and to let it become a substitute which hides or disguises their own shallowness.

Steps must be taken to salvage the good that comes from working together in a group and yet permit independent study. While this seldom occurs by way of a miracle, it can be built into much of the group activity that we have. Several tips can significantly strengthen learning in group situations.

STEPS TO BE TAKEN

First, stress the need for pre-group individual thinking and planning. Too often people in a group believe that a "meeting" is some private tinkering, prefiguring of the subject under consideration.

Second, carefully plan the involvement of individuals in the group by selecting skilled persons to lead in their area of specialization. Be less concerned about group activism; where time and energy can be saved by tapping individual resources, do so. Don't encourage [illegible] to [illegible]

of the group problem because "he needs to study in that area." Jim, and many other group members, might learn much more by listening to a person who has already read widely and integrated his ideas on a particular subject.

Third, employ leadership from outside the group. The fact that 15 men, who had no carpentry experience, built a garage does not mean that it will last nor that this band of amateurs is now prepared to construct a house. A skilled craftsman can be quite beneficial whether one is engaged in building a house or discussing a vital issue in education.

Fourth, plan for individual growth "between group meetings." Too often the intervening time between meetings is a lull, a void, a vacuum which encourages individual drowsiness and makes intellectual backsliders out of us. Certainly, group adjournment should not become a mental vacation.

Last, be honestly aware of the underlying purpose or purposes of the group. Is its purpose that of harmonizing factions? Is it solely fact finding? Or exploratory? Is it to stimulate certain individuals in the group? Is it to learn how to work together? Is it to develop a solution to a specific problem? Shape the activity of the group to the job which it claims to be doing. Group process is not so divine a method that it provides all things to all people. Its nature must generally conform to its purpose.

Whatever are the purposes of education, they are not to produce friendly mental midgets, or to cultivate conversant boobies. We must not lose that which made us a great nation—man's dedication to liberty, free thought, and personal independence. These things can be lost through disuse; man's physical and mental appendages are made adept and strong as they are called into duty daily. •

EDUCATION is not something that is done for a student or to a student. It is what the student does for himself in developing his own powers. Teachers can help; so can a curriculum and an atmosphere of devotion to things of the mind. But ultimately the problem is utterly the student's. —Charles W. Cole in *School and Society.*

TEACHING is a dangerous profession. It deals with our children, the most precious of our natural resources. It refines them into brave and wonderful adults or it grossly degrades them into dull, over-aged adolescents. Its results mold and determine the shape of our nation and the character of our people.—Frank G. Jennings in *Saturday Review.*

1958

Another critic of the group process is the novelist, John Steinbeck. In his novel, *East of Eden*, he declares:

"Our species is the only creative species, and it has only one creative instrument, the individual mind, and the spirit of a man. Nothing was ever created by two men. There are no good collaborations, whether in music, in art, in poetry, in mathematics, in philosophy. Once the miracle of creation has taken place, the group can build and extend it, but the group never invents anything. The preciousness lies in the lonely mind of a man."

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Going it alone brings to the surface such traits as clear-sightedness, selfdiscipline, planning and appraisal, independence. Riding the omnibus with the group also has values—sociability, cooperation, sharing, respect for the views and feelings of others. Right now not many folks like to be pedestrians. But the parasites who ride free in the group are neither effective in the group nor alone. In groups they find shelter, whereas walking alone provides them no such security, for the intellectual trails are unmarked and uncharted. The intellectual softies are quite pleased to find a refuge and to let it become a substitute which hides or disguises their own shallowness.

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of the group problem because "he needs to study in that area." Jim, and many other group members, might learn much more by listening to a person who has already read widely and integrated his ideas on a particular subject.

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1958

An Orientation Program Makes One Feel

Needed, Wanted, and Welcome

RUTH MERRIKEN

In NEA Journal

ALTHOUGH I began my teaching in my home town of Baltimore, lived at home, and had many friends, I still had a crying need for professional orientation.

I needed no guide to churches, cultural centers, or medical or banking services. I will always be thankful that my problems *were* concentrated in one area. This meant that I could give single-minded attention to the help orientation gave me on teaching problems, *per se*. I'm the anxious type to begin with, and when I thought about normal problems plus special problems, the flutterings in my middle felt more like bats than butterflies.

Eagerness overcame anxiety, however, when, during the week before school was to open, I went with other new teachers for my first formal orientation. In the morning, we met with the superintendent and other type administrators, who welcomed us warmly and gave us an inspirational orientation into the educational objectives of the system as a whole. In the afternoon, we divided into many subgroups for an explanation of general policies and procedures by the supervisory and resource personnel with whom we'd be working. We were also given an attractive, magazine-size manual, *Help Yourself*, with an index to aid and instructions on everything from fire drills to lesson-planning.

Ruth Merriken, who teaches a third-grade class at the General Wolfe Elementary School, Baltimore, Maryland, told this story to Carolyn Planck, NEA Journal *Assistant. Reported from* NEA Journal, *XLVII (May* 1958), 297–99.

The glow I felt at the end of the day lasted through the week end, but faded completely when I went to prepare my rooms for the opening on Thursday. For one thing, I had been assigned to a section of the city in which I had never set foot, Baltimore-born though I was. This was one of the harbor districts where the residents were largely foreign born. Then, when I went into the two rooms in the two different schools in which I was to teach kindergarten classes (one in the morning and one in the afternoon), I was shocked to see that they had been stripped—for thorough cleaning—of everything but furniture. Every block, book, and crayon was boxed in the cabinets.

At the time, I was overwhelmed. Now, I suspect there are more than hygienic reasons for having a new teacher turn a cell into a classroom. Making my rooms attractive and

usable was an experience in self-orientation that taught me more about my teaching equipment than I could possibly have learned from walking into a room completely assembled and ready for action.

On that dreamed-of-yet-dreaded first morning, I knew that my principal, my helping teacher, and the experienced colleague who'd been appointed my "buddy" were within easy reach, yet I trembled as I waited for the children. There was so much I *wanted* to do, so much I *must* do. As soon, however, as the children were in the room—and their parents had gone—I felt relaxed and competent.

Not that my first day didn't have its crisis! But at least it didn't come until I was leading my second class out for the midafternoon visit to the lavatory. Then, one little girl, instead of turning the corridor corner with the rest of us, walked straight through the front door and home. I didn't miss her until we were back in our room and I was taking a tally. Panicked though I was, enough of my preschool orientation had stuck to help me realize that a missing child was my principal's responsibility. The principal took over, reassured me, located the child.

Once school had begun, a great deal of my orientation occurred on the job. If children learn by doing, so do their teachers. This, I suppose, is the theory behind practice teaching, but there is the same difference between practice teaching and classroom teaching as between the menu prepared in a home-economics class and a three-meals-a-day routine.

While I was finding out some things for myself, I was by no means left unsupervised to blaze my own way by trial and error. My principals, of course, were mentors on policies, and my buddy teacher was an indispensable aid on such practical procedures as keeping records, making reports, and obtaining supplies.

The chief agent of my inservice orientation, however, was my helping teacher. She would sit quietly and watch me teach, later suggesting ways that were better, easier. She would teach for me, while I observed. She was always ready with help on special problems.

Nor was her sustaining hand withdrawn as my newness wore off. Toward the end of my first year, I was asked to take a third-grade class the next year, and my panicky feeling surged back. Leave the security of my kindergarten and plunge into elementary teaching? I hesitated.

"Go on, I'll help you," said my helping teacher, and she did. Now in my third year with the third grade, I'm still using the notes I took as she demonstrated the teaching of multiplication and division.

To sum it all up, Baltimore's orientation program gave me a psychological lift by making me feel needed, wanted, and welcome. And it provided a great deal of practical help that enabled me early in my career to do a better job. •

1958

Membership on a School Board Involves

Learning the Job "On the Job"

CALVIN GRIEDER

In The Colorado School Board Bulletin

EXPERIENCED school-board members say that it takes about two years to learn the job. One handicap is that there is little or no preservice training. This is common to many areas of public service. Generally speaking, men and women elected to serve on governmental boards, including boards of education, have to devote quite a bit of time and energy to learning the fundamentals during the early part of their service.

A potentially excellent board member must possess or develop a willingness to learn, and an attitude favorable to surrendering whatever preconceptions he may have in the light of new knowledge and new conditions. Schools and school systems everywhere are different from those which school-board members themselves attended as children. Problems and procedures of today are different from those of a generation ago.

All this does not mean that a school-board member should not possess convictions about public-school policies and procedures. It does mean that he should be able to change his mind, if the evidence warrants it, and not stubbornly cling to outmoded beliefs in blind disregard of facts and conditions of our times. This is not easy. It is not easy for anyone to accept new understandings. And it is not easy for the new board member to free himself from "hardened concepts" about American schools and their administration.

Calvin Grieder is Professor of Education, University of Colorado, Boulder. Reported from The Colorado School Board Bulletin, *XVI* (*May* 1958), 38-39.

The good school-board member certainly must be a person who is interested in the schools. He must be one who is willing (and able) to give the time and put forth the effort necessary to learn the job "on the job." And, as stated earlier, the board member must have an open mind on development of policies and practices for meeting contemporary educational needs.

In addition to these points, two other factors should be mentioned. First, it is very important that anyone who is elected or appointed to a board and accepts this designation should be able to attend regular and special meetings of the board. Anyone whose health, occupation, conflicting activities, or place of residence prevents him from faithful attendance does not qualify as a good board member.

Secondly, a board member must remember at all times that he is

only one of a group. He cannot speak for the board or commit the board in any way unless he is specifically directed to do so, and the minutes show it. This is one of the hardest things for board members to learn. The development of a feeling of board membership, with the give and take of discussion on many topics, takes considerable time at best. So there is no room on a school board for the "prima donna." A school board works as a unit, and its acts are not the acts of individuals but the acts of a board. Every member is obligated to support the actions taken by his board, whether or not he voted for them.

Frequently, board members are approached by individual citizens, including teachers, who want support for some particular thing, or perhaps want some proposal killed, or who have some complaint. Board members may listen courteously to such advances, but it is improper for them to commit the board or promise any specific action. It is proper, however, to suggest the appropriate channels through which the individuals should work before approaching the board.

Fortunately, there is an almost unlimited wealth of opportunities available to new board members to help them master the new job. In districts which employ superintendents of schools, much of the responsibility for the orientation of new board members rests with the superintendent along with the president of the board. In other districts, the board president (unless he is himself a new member) and the county superintendent of schools should assume this duty.

WISE FIRST STEP

A wise first step in orientation for the new board member is to read carefully the written policies of the board and the minutes of past board meetings during the preceeding two years. These documents will show what the board aims to do (policies) and also what it has done (minutes). Copies of any special reports on local school aims, achievements, and needs which have been submitted to the board in the last year or two should be given by the superintendent or president to the new member.

As time goes on he will find it very helpful to read the state school laws. And he should be introduced to useful national educational periodicals which will help him to keep abreast of educational developments and problems.

The superintendent or the board president should definitely encourage new members to attend national conferences and conventions of school boards. Other meetings of county, regional, or statewide importance may well be included in plans to help the new member learn the job "on the job." An appropriation in the budget should be made to cover the expenses of those attending such meetings, if possible, so that board members are not required to pay out of their own pockets.

Soon after his induction, the new board member should be taken on a tour of the schools by the president and the superintendent. The tour should include every part of the school system in order to give the new member a bird's-eye view of the whole enterprise. To see what other school systems are doing and to prevent the tendency to become provincial and narrow-minded, board members should visit other school systems. One or two excursions every year to see school buildings, visit a few classrooms, and perhaps sit in on a meeting of some other board will broaden a member's outlook.

A good way for all board members, but especially new ones, to learn about the work of the schools is to schedule regular reports in person at one meeting a month by various workers in the school. One month a committee of first-grade teachers may report on how reading is taught; the next month teachers may be heard on physical education in the high school; the third month the science teachers may report on their work; and so on. A great deal can also be learned from citizens' committees, properly set up to help the board analyze selected school problems and needs.

NO FOUR-HOUR MEETINGS

There is a great deal of routine in school board work. The suggestions that have been made will keep one from going stale and will help make board work more interesting and stimulating. As has been stated earlier, school board work takes considerable time. But board meetings can be conducted in a businesslike way. If planned ahead of time and if the members stick to business, meetings can proceed with reasonable dispatch. If the board has so much business or works so slowly that meetings run longer than about three hours, it would be well to schedule more frequent meetings.

The place of the superintendent of schools in the board meeting is very important. Although he is not a member of the board and has no vote, he is the chief executive officer of the school system. The board cannot act in the wisest manner on the innumerable problems which come before it without the benefit of the superintendent's advice. His recommendations, supported by facts and professional judgment, should be sought on most items by the board and should be given much weight in its deliberations. The superintendent's recommendations need not be invariably adopted, but they do serve as a definite point of departure for the board's thinking.

The common goal of all board members and their professional employes is the provision of the best possible schools for their community, state, and nation. By working together in a constructive, statesmanlike way, they stand a far better chance of having good schools than if they operate at cross purposes or seek personal credit and advancement as individuals. •

Is the Doctor's Bag or His Medicine More Important?

The Unit Concept in Social Studies: A Re-examination

DONALD W. OLIVER

In The School Review

IN educational circles, the assignment-recitation method of teaching needs little introduction. It is a read-recite method. The teacher assigns students a certain number of pages in the textbook on one day. The next day the teacher tests the students' knowledge of the material by oral recitation. The method is associated with a strong emphasis on day-to-day memorizing of isolated facts.

During the first quarter of this century, a growing lack of faith in the assignment-recitation method spurred an intensive search for new teaching procedures. Several approaches, which their inventors called "unit" methods, were worked out. The methods were very much alike. All of them, for example, set forth a series of steps or phases that the teacher and student were to follow. In preparing a unit a teacher was to draw up a statement of understandings to be attained. The statement was to be followed by an overview of the subject, which was to be used to motivate the students. Next, the teacher outlined the content to be assimilated and drew up descriptions of student activities. Finally, the unit provided for evaluation.

The history and the meaning of the unit concept deserve to be re-

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examined. A new appraisal at this time should certainly be of considerable importance to educators, if only to illustrate how a concept may insinuate itself into the vocabulary of a profession, even though efforts at careful definition and validation fail.

Henry Morrison is often credited with originating the unit method, though most of the ideas in his major work may be found in the writings of earlier thinkers. Much of Morrison's thinking can be traced back directly to the Herbartians, who believed that thinking proceeds through a series of predictable phases to a given product of learning.

Like the Herbartians, John Dewey analyzed the thought process and developed a concept of the unit based on his analysis. William H. Kilpatrick and Charles A. McMurry contributed their ideas. These educators all believed that they had discovered a cycle through which the thought processes of the student passes. To them,

the cycle was inherent in the nature of thinking. Rooted deeply in this concept is the idea that, if classroom situations are manipulated in the right way, the individual will pass through the cycle and arrive at a permanent thought product. The object of classroom instruction, then, is to allow such an experience to unfold.

Educational literature discussed the unit concept long before 1926, when Henry C. Morrison's *Practice of Teaching in the Secondary School* appeared. Still, his work was the first comprehensive treatment of the unit as an approach to learning, as a specific objective or product of learning, and as a teaching method for the secondary school.

Morrison's educational objectives are at the root of *his* unit theory. He makes careful distinction between what is learned and what is not learned in terms deeper than understandings or organized knowledge. He strives toward a change in behavior which he calls "adaptation." One writer, Herbert G. Lull, speaks of "learning by adaptation," although Morrison himself said that learning *is* adaptation. Like his predecessors, although he differs from them in some of his views, Morrison makes two predictions: first, that a particular kind of classroom situation will facilitate a particular kind of thought process; moreover, that, when this thought process is in operation, it will produce a particular kind of learning outcome. Unfortunately Morrison failed to define explicitly the relationships between thought process, learning outcome, and teaching method. Furthermore, writers of textbooks for secondary schools and for social studies in teacher education failed to ponder over the complexity of these relationships. As a result, each new textbook has its own interpretation of what Morrison meant by "unit."

Robert E. Swindler, author of *Social Studies Instruction in the Secondary Schools*, devoted four chapters to the discussion of the unit. He distinguishes between various types: The Dalton Plan, the Morrisonian unit system, the Winnetka Plan, and the unit system as practiced at the University of Virginia. This classification illustrates the persistent confusion between the unit as a general principle of learning and the unit as a particular teaching method.

The application of Morrison's idea of a unit to practical situations stimulated serious efforts to measure quantitatively the value of the unit method. Investigators usually followed the procedure of roughly matching two groups or classes according to relevant variables, such as age, grade, intelligence-test scores, or academic marks. One group was taught by the assignment-recitation procedure and the other group by some variation of the unit method. All of these experiments were made in an effort to clarify, teach, and measure Morrison's concept of adaptation.

F. G. Macomber—to select but

one of the experimenters—carried on a study to compare a contract or unit method with an assignment-recitation method. Twenty pairs of students in two groups were included in the final analysis of data. A special feature of the study was the amount of class discussion in each group. The assignment-recitation group spent a total of 960 minutes in class discussion. Students in the contract or unit group had only 236 minutes of class discussion; most of their time was spent in individual study. Three objective tests were given: one was a geographical place-location test, and the other two asked for general information. The discussion (assignment-recitation) group scored higher on the general information tests than did the contract group but lower on the geography test.

NO SUPERIORITY

The conclusions reached by experimenters and reviewers of experimental research on the social-studies unit in high school warrant at least one generalization. When factual retention is the outcome measured, unit methods, as defined in various experiments, give no striking evidence of superiority over other teaching methods. This finding perhaps should have punctured the inflated claims made for the unit method by early proponents; actually it did not. In fact, the majority of vocal curriculum-makers continue to expound the values of the unit.

Is it not interesting that although educators do not agree on what a unit is, they continue to use the term? Is it possible that this concept, which has no precise meaning, can still be useful to educators concerned with teaching procedures?

The positive feeling that many curriculum experts have toward the unit raises a second question. Their feelings are based on the assumption that the unit describes a teaching procedure that is superior to other procedures. Evidence indicates that this belief is not necessarily well-founded. Research on the subject is inconclusive. Is it appropriate for educators to act on an assumption surrounded by so much confusion and supported by so little evidence?

Nor is more evidence forthcoming. Although educators and other applied social scientists are showing more and more concern for guiding and changing the thinking process, the literature reflects fewer and fewer attempts to define carefully and validate experimentally teaching procedures designed to bring about such changes. Is there any reason why an observable teaching procedure cannot be subjected to empirical validation?

Our closing questions raise a basic issue: Isn't the unit really a vessel? Isn't the unit like the physician's black bag? Aren't the size and texture trivial compared with the instruments and medicines inside? Are we lost in discussions of structure, when in the end it is the content that really counts? •

Should Ninth-Grade General Science Be Abolished?

Secondary-School Science Programs: Appraisal and Recommendations

LUDWIG F. AUDRIETH, R. WILL BURNETT, and HARRY J. FULLER

In Improving Science Programs in Illinois Schools

TYPICAL secondary-science offerings in the state of Illinois include ninth-grade general science, tenth-grade biology, eleventh-grade chemistry, and twelfth-grade physics. This is also the standard American curriculum.

The standard requirement is for one year of high-school science. Some schools require two years; a few, none. National data indicate that most students take general science and/or biology. Illinois students are believed to follow this same general pattern.

Among the other science and science-related courses offered in many schools are: senior science (also designated as consumer science and physical science) in many schools for less capable students; a variety of applied courses such as photography and aviation. Earth science is increasingly offered, and a few schools have advanced biology, botany, or zoology.

There is a serious weakness in adequate teacher preparation for the teaching of science in Illinois. But here the problem is not new or unique. Studies elsewhere in the nation indicate that this is a common weakness. Too many science classes in the high schools everywhere are being taught by instructors who are inadequately prepared.

Ludwig F. Audrieth, R. Will Burnett, and Harry J. Fuller are members of the University of Illinois Committee on the Preparation of Secondary-School Teachers of Science. *Reported from* Improving Science Programs in Illinois Schools, *prepared by the Joint Committee for Improving Science Education in Illinois Schools of which William O. Stanley was Chairman. Published by the University of Illinois, Urbana* (1958), 45–57.

What is at fault? It seems fair to say that the psychological and financial rewards of secondary-school science teaching have not been sufficient to attract adequate numbers of well-trained teachers. Until this picture is substantially changed, we cannot expect to get the numbers of well-trained teachers we must have to teach science to our children. We strongly recommend that decisive steps be taken to correct this situation. It is abundantly clear that the national interest requires that first-rate, highly-trained teachers be secured in large numbers—and speedily!

We turn now to what we believe to be serious curriculum weaknesses. Inspection of texts, laboratory manuals, and courses of study, and

observation of teaching in science classes in Illinois high schools have led to such conclusions as the following:

Too much high-school science instruction is descriptive and stresses rote learning. Too much high-school science instruction deals with technology and applied science at the expense of fundamental analysis of the basic ideas, concepts, and principles of science. Very little is done with the philosophy, history, and methods of science, or with the modern theoretical and experimental fronts of the sciences. The intellectual requirements for even average students are probably too low, particularly in general science courses and in a good deal of biology instruction. Student disaffection from science (and even failure in science courses) is often the result of boredom, growing habits of "getting by," and indifference to lack of intellectual stimulation.

Special efforts to challenge and direct the abilities of science-gifted students are sparse. Where they exist, they too often show lack of imagination, of proper expenditure of time and energy, or of both. The national interest requires that we search out and specially assist the gifted child in all fields of educational endeavor. National security requires special attention to the student with exceptional abilities in science and mathematics. Without question, American schools have handled inadequately the education of the gifted student.

The science curriculums of Illinois schools are too often nondevelopmental and repetitive. Much of what is commonly taught in high-school science courses is already familiar to students through elementary-school science courses or informally through magazines and television programs. And almost every course in the science curriculum attempts broad coverage at the expense of depth. This results in superficiality, forces out the opportunity for critical thought, and produces both for the teacher and student a sense of urgency to "cover" rather than to understand a discipline. And laboratory work, which should form the core of instructional programs if a spirit of inquiry and critical analysis is to prevail, is too often a species of visual education rather than a means of investigation. Quite apart from the above, laboratory equipment is seldom properly maintained. It is too often a pile of expensive and deteriorating junk.

Sound training in the proper use of reference books is rare. Typically, a single text is closely followed to the exclusion of reference work. Differences in interest, reading ability, and academic aptitude are not easily accommodated under such a single-track, force-draft system. Nor does such a practice stimulate the inquiring mind; such stimulation, for any student, may require far greater depth of understanding than that provided by a single text or a combination of textbooks.

To remedy the foregoing serious weaknesses in the science curricu-

lum of Illinois secondary schools, we offer—in great brevity—the following recommendations:

RECOMMENDATIONS

We believe it highly important that a standing state committee of experienced science teachers, scientists, and educationists be formed to advise with the State Department of Education on matters relating to certification and teacher education curriculums. Among its functions should be included curriculum analysis and development in the field of science from the primary grades through the lower division of work of colleges and universities. The purpose of such analysis and development should not be to provide a prescriptive science curriculum but to provide ideas of merit which may be adapted by school systems and colleges throughout the state.

We recommend that departmentalized general science be offered to students in grades seven and eight throughout the state as quickly as competent staff and facilities can be made available. These courses should be required of all students. This two-year sequence should not be a study of the separate disciplines. It should, rather, be a perspective-giving, unified experience in the ideas of modern science for each learner.

We believe that, in most places, ninth-grade general science should be abolished. We believe we should move *beyond* general science at this level in order to provide more challenging offerings. However, we do not wish to be iconoclastic about this. The title of a course and the content as such are less important than are the stimulation of thought, the analysis of problems and data at a level commensurate with student ability, and the stimulation of increased interest.

We *do* recommend that a year of biology be offered in the ninth grade and a year of physical science in the tenth grade (or the converse, if the mathematics in the physical science offers no problem in the ninth grade.) Both courses should emphasize the concepts and conceptual frameworks of their respective disciplines, as well as the modern, experimental fronts of these areas of science. A great deal of the work in both these courses should grow out of laboratory activities. The primary goals in both these courses should be to provide real understanding, to stimulate reflection, and to promote selfteaching—in short, to provide a basic literacy concerning natural sciences.

We recommend that all students be required to take two years of natural science in grades nine through 12. The majority should probably take the biology and physical-science courses described above. These are designed for their general educational and cultural values and form the backbone of the high-school general education in science.

We recommend that rigorous laboratory courses in physics, chemistry, *and advanced biology* (or

botany and/or zoology) be offered in as many schools as can provide competent instructors and facilities. These courses should be designed as intensive disciplines. It is emphasized that these courses should be more experimental, thought-provoking, flexible, and rigorous than are many such courses today. Able students should be encouraged to take them. It is equally important that academically unable students should be discouraged from taking them. In many classes in physics and chemistry today, the quality of the offering for competent students suffers as teachers struggle to help average and below-average students to gain an understanding which they are unwilling to achieve or incapable of achieving.

We recommend that science-gifted students be encouraged (not required) to take three or four years of science and three or four years of mathematics in grades nine to 12. This should not be done at the expense of a liberal education in social science, English, and the humanities. It will obviously require that students take five units of academic work in most semesters. We wish to re-emphasize that high academic ability should not necessarily imply that a student should take more than the required two years of science. Our country needs statesmen, businessmen, skilled laborers, farmers, artists, clerks, and a host of other workers. Strong effort should be made to guide each student into course work that is commensurate with his abilities and special interests. But for those who are both gifted and interested in science, good courses in sciences should be made available.

We recommend that "honors" classes of specially gifted and interested students be established in every school where competent staff is available and that such classes be available to capable students from grades nine to 12. Every investigative facility should be offered such students and they should be given credit for effective work done in these honors classes. The science teacher who is willing and able to guide such classes effectively should be given credit for them on his work load.

We wish to emphasize that such special programs for gifted children do not require a modern da Vinci as a teacher. The trick is to stimulate, to encourage, and to provide resources for the gifted student, who sometimes will move beyond the teacher's knowledge. The teacher should utilize the community's resources of specialized knowledge by bringing medical doctors, laboratory specialists, engineers, chemists, etc., into the program to assist the student researchers. It is important to stress that such honors classes are worthwhile even though they enrol only three or four students a year. If every high school in the state gave such special attention to only two science-gifted students each year, our nation would be immeasurably enriched. •

1958

What Does Efficient Reading Involve?

Relation of Visual Perception to Reading

JEAN TURNER GOINS

In Visual Perceptual Abilities and Early Reading Progress

SINCE the turn of the century, when experimental investigations revealed that the unit of recognition in reading was the word and groups of words rather than individual letters comprising words, there has been considerable interest in the nature of visual perception in reading.

Changes in reading methodology during the last 50 years have reflected the changing concepts of the nature of visual perception involved in the reading act. Early reports emphasized the value of teaching children to read by "wholes" – directing attention in turn to the story, the paragraph, the sentence, and the word. Prior to this period, analytical methods had been based on a system ascending from letters to syllables to words.

It has become increasingly clear, however, as the approach to reading through emphasis on wholes has become almost universally adopted, that certain pupils do not make satisfactory progress in learning to read when instruction directs attention solely to word wholes.

Based on the evidence of this author's study—a theory of the nature of visual perception in reading is postulated thus: Efficient reading involves ability not only to hold in mind the "wholeness" of a word, phrase, or sentence (that is, to perceive its larger relationships both mechanically and ideationally) but also to attend to individual words and, at times, to parts of words. Perceiving in a general way the whole, but not discriminating clearly among its component elements (letters, words, phrases), may cause as much difficulty in reading as does concentrated attention on word-analysis and word-calling.

It appears that six tests of visual perception used in the present study may ascertain early and easily the type of pupil who is able to take advantage of modern methods of learning to read. Conversely, these tests may identify those pupils requiring other types of instruction. The six perceptual tests which measure this second factor are: Pictures; Picture Squares; Pattern Completion; Pattern Copying;

Jean Turner Goins is Reading Consultant in the North St. Paul Area Schools, Minnesota. *Reported from* Visual Perceptual Abilities and Early Reading Progress, *Supplementary Educational Monograph Number* 87 (*February* 1958), *published by the University of Chicago Press. This report is a part of "Summary and Conclusions," Chapter VII of the study,* 103–107.

Figures; and Reversals. These tests appear to measure a type of strength of closure that can best be described as requiring the subject to hold in mind a whole, a perceptual Gestalt, while at the same time he manipulates in some way the "parts" of the whole.

VIEWING THE TESTS

An examination of the nature of these tests and the subjects' reaction to each suggests the contribution they make to this concept of the nature of visual perception in reading. For example, in the Pictures test the children who made low scores were those who perceived the items only on the periphery of each picture. Perhaps those who scored high were able to "see" the whole picture and its details at once and thereby notice the items integrated into the central theme of the picture.

It is the test of Picture Squares which illustrates most clearly this interpretation of the nature of the perceptual act involved in the factor. The scores on this test had a bimodal distribution. Watching the children while they took this test showed that two types of approach were used. The children with inferior scores looked at each item in order and then attempted to match it with another in the group—a time-consuming process. The children with superior scores looked at each group of the nine pictures as a whole, an entity, while concomitantly attending to the separate parts with sufficient accuracy to find quickly the two identical pictures in the group.

In the Pattern Completion test it was clear that the pattern must be kept in mind as a unit in order to reproduce it; at the same time the dots and lines of the incomplete pattern had a distracting effect when the pupil attempted to fill in the lines. Here again, in a sense, the subjects had to manipulate the parts while attending to the whole, with the whole itself acting as a distractor to the manipulation of the parts. Thus *strength* of closure was required on the part of the successful perceiver.

Pattern Copying, the test which correlated highest with the reading test (.519) and which had the highest loading on the closure factor (.930), required fundamentally the same type of behavior. A careful study of the last page of items included in this test supplied convincing evidence that, in a first-grade group, achievement on the test operated selectively.

The Figures test had a reversal element in it. Although all the comparison items were differently oriented spatially, the two items unlike the key figure were unlike to the extent of having some section of the lines reversed. In both this test and the Reversals test, the tasks involved required strength of closure to the extent that ability to keep in mind a configuration against distraction (the distraction being a confusion of the relation between figure and ground) was necessary to compare the re-

versed and the nonreversed figures.

Finally, this proposed theory of the nature of visual perception in learning to read is supported by two facts: that several of these tests had substantial correlations with reading achievement at the first-grade level and that reading was related to the perceptual factors in the factor analysis.

Samuel Renshaw's theory of unitary "seeing" is in harmony with this concept of the nature of visual perception in reading, even though the training experiment conducted in the present study did not uphold his claims for the value of tachistoscopic training for unselected classroom groups. Renshaw has stated that "it is fairly well agreed that perception is a process of field organization or structuring—'seeing things together'—which begins with masses, totalities, and unities and proceeds later on to specific differentiations." It is Renshaw's claim that tachistoscopic training can reinforce this type of seeing, but, apart from that claim, the theory postulated above regarding the type of perceiver who reads well is in agreement with his concept of perception as a process of field organization. Renshaw's work in his laboratory with a mathematical prodigy showed no evidence of perceptual discontinuity in this subject's skill in perceiving numbers. It was on this basis that Renshaw questioned the conventional concept of span of visual apprehension or span of attention and suggested that such terms actually refer to a phase of "perceptual field structuring." Renshaw concluded that increase in tachistoscopic skills produced a more integral and coherent perceptual field and, in turn, produced more fluent and meaningful performance in silent reading.

It may be speculated that Renshaw's emphasis on "integral and coherent" perceptual fields as a basis for better reading has a meaningful relation to the "strength of closure against distraction" factor reported in this study.

The evidence of this study points to the conclusion that visual perceptual ability, as involved in word perception, is a primary mental ability or aspect of intelligence. Furthermore, Renshaw's claim that such skill can be developed by use of tachistoscopic methods which train and enforce this ability was not substantiated for the group described in the present study. However, this finding does not preclude the possibility that pupils who are experiencing some specific type of reading difficulty may not profit from such training, especially if these children are "part perceivers." Research in this area is urgently needed. For example, a possible study would be one in which children whose performance was initially low on the group of six perceptual tests described above were given intensive tachistoscopic training. Retesting on the perceptual tests, with a concomitant appraisal of reading skill, should determine the possibility of changing types of perceivers. •

Can You Spell—or Even Pronounce—"Syzygy"?

231 Real Spelling Demons for High-School Students

EDNA L. FURNESS and GERTRUDE A. BOYD

In The English Journal

WHAT words, and how many, should a student know how to spell? Fifty years ago a seventh grader in Springfield, Illinois—and other places, too, for that matter—had to overcome such hurdles as "bergamot," "deutzia," "weigela," "abutilon," even "erysipelas."

This dismal picture was to change in 1914 when Professor Leonard Ayres surveyed the Springfield schools and laid the foundations for his monumental work in spelling. Professor Ayres believed that the words the child is taught should be in the common usage. And he made the observation that the average person may get through life—and sometimes very successfully—without learning to spell "erysipelas" or "syzygy." Ayres compounded a list of spelling words, the first venture with a measure of objectivity to give it substance and validity.

Since that time other surveys have been made, and other useful lists have been compiled. The most extensive is that of E. L. Thorndike, who succeeded in ferreting out the 20,000 most common words in the English language.

Because some people are able to master words rapidly, others less rapidly, and others very slowly, words of a crucial core should be taught to each learner as he needs them. A crucial core of words, sometimes known as "spelling demons," may be said to consist of the most important and the most often misspelled words at each level of instruction.

Edna L. Furness and Gertrude A. Boyd are members of the faculty of the College of Education, University of Wyoming, Laramie. *Reported from* The English Journal, *XLVII* (*May* 1958), 267-70.

THE REAL HURDLES

In making a survey of the available lists of words which are real hurdles to high-school pupils, the present writers studied the works of five students of this subject. These five lists of spelling demons produced a total of 688 different words. There were 231 words, however, which appeared in two or more demon lists. Four words—*business, necessary, receive,* and *separate*—were included on all five lists of the demons for high-school students.

The following list of 231 words, then, might be considered "real" demons for high-school students. Words which appear on two lists are unmarked; words which appear

on three lists are marked by the number 3; those in four lists, by the number 4; and those on five lists, by the number 5.

231 Spelling Demons

3 absence
3 accept
accidentally
4 accommodate
acquaintance
across
advise
3 affect
3 all right
already
3 amateur
analyze
answer
anxious
apparatus
3 appearance
appreciate
arctic
3 argument
arrangement
athletics
awkward
4 beginning
3 belief
4 believe
beneficial
3 benefit
3 benefited
brilliant
Britain
bureau
5 business
3 busy
cafeteria
calendar
campaign
cancel
capital
captain
3 cemetery
certain
changeable
3 chauffeur
3 choose
clothes
coarse
3 column
3 coming
3 committee
competent
completely
conceive
4 conscience
conscientious
consistent
convenience
corporation
course
courtesy
criticism
3 deceive
decided
definite
3 definitely
definition
describe
4 description
desert
desirable
despair
dessert
3 develop
development
3 different
disappear
3 disappoint
disapprove
disastrous
3 discipline
divine
3 doesn't
3 effect
embarrass
emphasize
equipped
especially
exaggerated
3 excellent
except
4 experience
extremely
3 familiar
4 February
3 finally
3 foreign
3 forty
fourth
freight
friend
3 fundamental
generally
genius
3 government
3 governor
4 grammar
guarantee
handsome
3 height
humorous
hungry
4 immediately
3 independent
interested
interesting
interfere
it's
3 its
knew
knowledge
3 laboratory
laid
3 leisure
library
loose
3 lose
losing
magazine
maintenance
marriage
mathematics
meant
minute
mischievous
misspell
mortgage
naturally
5 necessary
nickel
3 niece
ninety
3 noticeable
nuisance
occasion
4 occurred
occurring
omitted
opinion
3 opportunity
original
paid
pamphlet
3 parallel
parliament
pastime
peculiar
perhaps
permanent
persuade
physician
piece
3 planned
3 pleasant
possess
3 principal
3 principle
4 privilege
3 probably
professor
pronunciation
psychology
3 quiet
quite
realize
really
3 receipt
5 receive
received
recognize
4 recommend
recommendation
reference
referred
relieve
religious
3 repetition
respectfully
3 restaurant
sandwich
3 schedule
4 secretary
3 seize
5 separate

shining
3 similar
3 sincerely
3 sophomore
speech
straight
studying
succeed
success
sufficient
superintendent
surely
4 surprise
tariff
4 their
3 there
they're
3 thoroughly
3 to
together
3 too
3 tragedy
tried
tries
3 truly
Tuesday
3 two
typical
3 until
3 usually
valuable
vegetable
weather
3 Wednesday
4 whether
whose
woman
3 writing
4 written •

Sometimes Spelling Can Be a Humorous Demon Too

• Being seriously underweight exposes one to T.B. and new phonia . . . One simple machine is the weel and exile . . . The volcano "europed all over the city." . . . The farmers signed up for the County Soil Constipation Unit.—From examination errors reported in *Metropolitan Detroit Science Review.*

• A pheasant with a gun was equal to a noble on a horse.—Reported by Nelda Davis in *Social Education.*

• In mid-evil days the country was organized on the old futile system . . . We must learn to coke with the situation, use the upmost care, and not take anything for granite . . . Paul did not knottis the rip in his white panse and when he found out he felt like a silly nincompoot . . . Shakespeare's tomb is inscribed with an epitat.—Errors reported by Paula Reed in *Ladies Home Journal.*

• On a government test one student wrote: "When this case reached the United States Supreme Court they declared it null and valid."—Error reported by A. B. Childress in *The Oklahoma Teacher.*

• There he met the angle who afterwards became his wife.—British examination error reported in *The Schoolmaster.*

• She may be fried by her boss for using such bad habits . . . He went to the funeral of his diseased ant . . . She wept for a few minuets . . . When someone is speaking, don't make any nose.—Examination boners from *High Points.*

• An eighth-grader wrote, "In dividing any number by 100, we may move the dismal point two places" . . . A high-school teacher reported this gem: "B. F. Goodrich failed once in business, but he believed in the future of rubber, so he tired again."—From *NEA Journal.*

1958

One Tool from a Well-Stocked Chest

Phonics Again

JOHN R. ROGERS

In The Elementary School Journal

PHONICS is neither a subject nor a method of teaching reading. Actually not a single nationally prominent authority on reading recommends teaching phonics in a separate period or as a separate subject. How, then, are we to explain the present rash of phonics courses?

Two answers are possible: Those who advocate a separate phonics period have not studied the technical literature, or they do not believe it. In view of the research cited by recognized authorities in support of their position, it hardly seems likely that the second alternative is correct. The purpose here is to describe the role that phonics can and should fill in a developmental reading program.

Phonics is not a method for the teaching of reading. It is a skill for attacking words. It is only one of several methods that a child should be able to use in unlocking the meaning of a printed word which is new and unfamiliar to him. Other word-recognition skills include learning sight words (a child recognizes a familiar word just as he recognizes a familiar person—by the way it looks); inferring meaning from context; using picture clues, syllabication, structural analysis, and using a dictionary.

Note well that phonics is of help to a child only when the "new" reading word is already in his hearing and meaning vocabulary. A child skilled in the use of phonics may be able to pronounce the word, *antediluvian*, but he has not *read* it unless he understands what it means.

John R. Rogers is Assistant Professor of Education, Fort Hays Kansas State College, Hays. Reported from The Elementary School Journal, *LVIII (March* 1958), 344–46.

It is very important to recognize that mere calling of words is not reading. Some of the most troublesome problems confronting the reading teacher are presented by verbalizers—children who glibly pronounce every word on a printed page but have little or no real understanding of what the page is about. A casual listener would probably classify the verbalizer as an excellent reader. Actually, he is not reading at all; he is merely pronouncing a series of meaningless words. Overemphasis on phonics is a sure-fire method of producing such verbalizers.

A child's first approach to reading should be through a method that uses wholes. From the beginning, children should be trained to recognize whole words and groups

of words at a single glance or fixation. Because habits once established are difficult to break, phonetic attack, as well as all other atomistic word-attack skills, should be deferred until the child has developed a sizable sight vocabulary and is thoroughly accustomed to recognizing whole words and groups of words at a single glance. The most common approach to first reading instruction is the experience chart, but commercially prepared primers and preprimers may probably be used just as profitably. The important point is to avoid the too early introduction of any technique which will encourage children to dawdle over words and look at them piecemeal.

After good habits are established, the child may be gradually encouraged to use other word-attack skills. *Phonics has a valid and valuable place in the developmental reading program.* It is introduced at this point as *one of several* word-recognition skills, and it is retained in the reading period where it belongs. It is not treated as a separate subject. Every recognized set of basal readers on the market today has a carefully planned and adequate phonics program built into it. The manuals for teachers which accompany these readers are replete with suggestions and detailed plans for helping children acquire all the phonic skills they need for rapid and efficient reading. Treating phonics as a separate subject must inevitably result in distorting a useful skill, wasting a great deal of valuable time, and perverting the entire reading program.

Phonics is not of equal value to all children. Some children learn the sounds through reading even before these are called to their attention. Other children do not seem to have the facility for this kind of thing. There are children who depend heavily on context clues; others make much use of structual analysis. And there are those who resort naturally to phonics. All these techniques are valid and useful for attacking strange words. It is sensible to allow each child to develop the skills and habits most natural for him.

It has often been noted that most skilled readers use a variety of techniques for word attack. Their choice in a particular passage depends on the nature of the unfamiliar word. They use whatever technique or set of techniques seems appropriate. For instance, a child may conclude from context clues that an unfamiliar word is the name of a vehicle of some kind. He has no picture to tell him whether the vehicle is a car, a train, or an airplane. The child takes a good look at the word (first part first); it does indeed look like *car,* but the familiar first part of the word is followed by a *t.* He sounds the *car* and adds the *t;* he knows *cart* as a two-wheeled vehicle; he proceeds. This child has read. He has used phonetic analysis. But he has used it as only one tool from a well-stocked chest of many tools. •

1958

With Education in Washington

THE EDUCATION DIGEST WASHINGTON BUREAU

Congressional Patches – Every member of the House of Representatives faces election in November of even-numbered years. The coming campaign normally should encourage the House to finish its business and hurry toward adjournment, but not so this year. Leaders on Capitol Hill, as this issue goes to press, were talking of a late August adjournment.

The 85th Congress fiddled with education, mostly playing a few disconnected notes and chords. The Administration had called for scholarships and special aids in support of a Sputnik-centered curriculum. The Democratic answers were twofold: The Hill-Elliott bill which might be described as a bigger and more complicated program patterned after the Administration's proposal; and the Murray-Metcalf bill which sought to start with a billion dollars to remedy long-standing deficiencies in school construction and teacher salaries.

The Murray-Metcalf bill, blessed by the National Education Association and other groups disturbed by the continuing financial plight of education, was off to a late start. After testimony before committees of both houses, the bill moved, stalled, and died by default. It is almost certain to be revived next January, having received favorable attention by teachers for whom it meant higher pay, school administrators for whom it meant building funds, senators for whom it had voter appeal, and farsighted citizens who recognized its real potential merit.

Some sort of an aid-to-education law, however, appears probable this year. After a good deal of maneuvering and many delays, the Senate bill, authored by Lister Hill (D-Ala.) reached the floor of the Senate the first week of August. It was called a $1½ billion education bill. The House bill, authored by Carl Elliott (D-Ala.), which provided less funds, was cleared for consideration within the week.

There were differences in the amounts set in the two proposed bills; both measures, however, when introduced, called for $175 million in college scholarship funds in a four-year program, with a three-year tapering-off period. Both also included $260 million in a college student loan fund.

In addition, both measures also contained large grant authorizations for various phases of education, including grants designed to improve the nation's teaching of science, mathematics, and foreign languages, and to set up guidance programs for the gifted.

Sound majorities were given both bills in quick passage by the two houses. At press time, a joint Senate-House conference was trying to resolve differences, one of which was the elimination of the scholarship program in the final House bill with a corresponding increase in student loans.

New Faces—After several false rumors, Marion B. Folsom resigned as Secretary of Health, Education, and Welfare. His successor is Arthur S. Flemming, longtime government career official and resigned president of Ohio Wesleyan University.

The President also named a new Undersecretary of HEW. She is Bertha Adkins, former college dean and prominent member of the Republican National Committee.

New Book—Roger Freeman first came into prominence in education circles late in 1955 during the White House Conference on Education. He distinguished himself for his conservative views and his adamant opposition to federal aid for schools.

This summer saw the release of Volume I on "Financing the Public Schools," written by Mr. Freeman and published in Washington by the Institute for Social Science Research.

This volume, *School Needs in the Decade Ahead*, promptly came under NEA fire "as a prosecutor's case consisting of a skillful compounding of selected facts and fiction."

In the maze of 57 tables and 8 appendices, Mr. Freeman discusses cost in relation to pupil enrolment, salaries, teacher-student ratios, population growth, and the Soviet challenge. He finds that American schools cost more and teach less, that school plants are extravagantly idle during three months of the year, that education organizations oppose films, TV, and teacher aides, that more people enter teaching than leave it to accept private employment, that teachers are relatively better off today than 30 years ago, and "that many of our present teachers could not earn as much doing anything else."

Critics of Mr. Freeman's ability and integrity were particularly unhappy with his noncomparable comparisons. For some tables he uses a base year of 1900, for others he begins with 1940. Some charts end in 1954, others range through 1958.

The book was released early in July. On July 10 it was summarized in the *Congressional Record* on the initiative of Rep. Ralph Gwinn (R-N. Y.) and by July 15 it was cited in the Congressional minority report opposed to the Hill-Elliott bill.

Sidelight on Mr. Freeman deals with his qualifications. His book shows him to have been "consultant on school finance to the Committee for the White House Conference on Education." The Committee's official Report to the President does not list Mr. Freeman as a consultant but carries a parenthetical note that a "committee of four" served with the finance subcommittee; last named of the four is Roger Freeman.

Birth Rates—A sharp dip in births occurred in the early thirties, accompanying the economic depres-

sion. Latest figures indicate that births still exceeded 300,000 a month during early 1958, but they are 7,000 below the same period in 1957.

Current explanation of population experts points the accusing finger at the economic recession which started in mid-1957.

School population, of course, is based on children who have actually been born, and data from the Bureau of the Census show a continuing increase in school-age population through 1964, to be followed by a slight plateau.

These projections are based on what statisticians call "the 1954-55 fertility level" but they clearly point to continuing, heavy demands on classrooms, teachers, and educational facilities.

Language Teaching — Outgoing HEW Secretary Folsom recently referred to "a prime national need" in describing the U. S. as "the most backward major nation in the . . . vital field of language competence."

This summer a report, based on a Washington conference of 50 foreign language specialists from all parts of the nation, made a strong pitch for increased attention to foreign languages.

A striking recommendation said that for best results foreign languages should be taught for ten years, beginning no later than the third grade. The report, published by the Government Printing Office, notes:

√ In the seventh grade a second language is suitable for students with language aptitude.

√ Most high-school students today receive only two years of language instruction, far from enough for mastery.

√ Teaching methods and textbooks are obsolete and inadequate. Recordings, TV, tapes, and language libraries are part of the answer.

√ Teacher competence and proficiency need upgrading. There is a need for state consultants, for supervisors.

European-Type Education?—Two voices spoke up for American education, both of them under the auspices of the American Council on Education.

First, there was a report by Dr. Byron S. Hollinshead, "Is European Education Better?" written after he spent five years in Paris with Unesco. He pointed to the variations in curriculum, methods, and organization in European countries and the 48 American states. He qualified his answer, but his comments were an endorsement of the American attempt to provide equal educational opportunity for all.

"There is an unreal quality to these arguments about returning to an earlier or more restricted curriculum. It is somehow as if the twentieth century had failed to exist," he said.

"Perhaps the best proof . . . is the intense dissatisfaction Europeans feel about their own system . . .

The Europeans recognize that they will be having our problems as they widen the scope of their education by increasing their numbers. Our task is to preserve our gains in quantity and develop new means to improve quality."

Similar findings were reported to ACE by Dr. Harry D. Gideonse, returned from a year spent in teaching at the Free University in West Berlin. "The course is clearly set in a direction that parallels American development."

Dr. Gideonse, economist turned college president, made an attempt to correct a recurring rumor about Russian students and their examinations. He deplored the misuse of statistical data and pointed an accusing finger at a leading industrialist who made a well publicized address in which he had said:

"The physics examination given to Soviet high-school graduates was given without gimmicks or identification to the freshmen at M.I.T. Not a single one of them passed. Only the highest of the sophomores achieved an acceptable score. Not until the junior level was reached was a creditable showing made."

After checking with M.I.T., Dr. Gideonse found that no Soviet examinations had ever been given to M.I.T. students: "No retraction or correction was ever published—we were obviously dealing with a determined 'will to believe.'"

NEA Program, Membership—After completing its first year under the new dues structure (from $5 annually to $10), the National Education Association pointed with pride to its expanded program, was less happy with a drop in membership from 704,000 to 617,000.

Delegates to the annual convention in Cleveland in July saw evidence of increased legislative activity, better information services, a stepping up in professional welfare, and improved staff contributions. On the other hand, the actual convention was rather dull, ending with an inconclusive hassle when a New York delegate wanted to mend the resolution dealing with desegregation by calling for research, study, and action to be taken in 1959.

The move was blocked when a Georgia delegate asked if a quorum were present, followed by a quick walk-out by Southern members. This resulted in a lack of quorum, the continuation of the old resolution on desegregation, and the end of the convention, more or less on schedule.

Swords into Plowshares—Retired military and naval officers have often been suggested as a potential source of manpower to overcome the shortage of teachers.

Under the auspices of the National Science Foundation, this trend has been given new impetus. Now underway is an NSF-sponsored experiment in which Duke and Purdue Universities are cooperating, enrolling a dozen retired Army colonels and Navy captains. •

• Educational News •

CHANGES IN SUPERINTENDENCIES:

Washington, D.C.: **Carl F. Hansen,** acting superintendent since March, has been named successor to **Hobart M. Corning,** resigned.

Cedar Rapids, Ia.: **Clyde Parker,** superintendent since 1946, has resigned to become assistant superintendent in charge of personnel and public relations, Oak Park, Ill., public schools.

Sandusky, Ohio: **Wallace C. Glenwright,** assistant superintendent, has been named successor to **Carl L. Mackey,** retired.

Jamestown, N. Y.: **Wesley G. Miller,** formerly assistant superintendent, is successor to **Carlyle C. Ring,** resigned.

Kalamazoo, Mich.: **Daniel J. Heathcote,** former assistant superintendent who succeeded the late **Loy Norris** as superintendent in January, 1958, has retired.

Hastings, Neb.: **Richard R. Short** is successor to **Merle R. Bolton,** now superintendent at Forest Park, Ill.

Harrisburg, Pa.: **Fred E. Bryan,** formerly superintendent at Uniontown, Pa., has succeeded **Clarence E. Zorger,** resigned.

Arlington, Va.: **Ray E. Reid,** formerly assistant state superintendent of public instruction for Virginia, is now superintendent, succeeding **T. Edward Rutter,** now superintendent at Radnor township, Pa.

Pittsburgh, Pa.: **Calvin E. Cross,** formerly district principal in Schenectady, N. Y., has succeeded **Earl Dimmick,** retired.

Bridgeport, Conn: **Augusta Mendel,** formerly deputy superintendent, has been named successor to **Joseph E. Jeffery.**

Milton, Mass.: **E. Davis Woodbury,** formerly of Natick, Mass., is now superintendent.

Sedalia, Mo.: **Thomas J. Norris,** formerly of Harrodsburg, Ky., has succeeded **Heber Hunt,** retired.

Laurel, Mont.: **Fred W. Graff,** superintendent 37 years, has retired.

East Chicago, Ind.: **A. C. Senour,** superintendent since 1943, has retired.

Teaneck, N. J.: **Lester N. Neulen** has retired after 30 years as superintendent.

Chester, Pa.: **Charles D. Long,** formerly assistant superintendent, has succeeded **Addison H. Showalter.**

Wilkes-Barre, Pa.: **Walter E. Wood,** formerly assistant superintendent, has been named successor to **John Lumley,** resigned.

Kansas City, Mo.: **Roscoe V. Shores** has retired.

COLLEGE PRESIDENTS:

Northeastern University, Boston, Mass.: **Asa S. Knowles,** president of University of Toledo, Ohio, has been named successor to **Carl S. Ell** on his retirement in July, 1959.

University of Tulsa, Okla.: **Ben Graf Henneke,** formerly administrative vice-president, has succeeded **Clarence I. Pontius** as president.

University of Toledo, Ohio: **William S. Carlson,** president of the 42-unit State University of New York from 1952 until his recent resignation, has been named successor to **Asa S. Knowles.**

University of Maine, Orono: **Lloyd M. Elliott,** formerly executive assistant to the president, Cornell University, has succeeded **Arthur S. Hauck,** retired.

Western Illinois University, Macomb: **William Lipsey,** dean of faculty, has been appointed acting president to succeed **Frank A. Beu,** resigned.

Boston College, Mass.: The **Very Rev. Michael P. Walsh** has been

named successor to the **Rev. Joseph R. N. Maxwell**, president since 1951.

TEACHER-TRAINING INSTITUTIONS:

University of Colorado, Boulder: **Stephen Romine**, formerly director of the bureau of educational research, has succeeded **Harl R. Douglas**, retired, as director of the college of education.

Northern Illinois University, De Kalb: **John S. Benben**, who recently returned from a Unesco assignment in West Africa, has been named head of the department of education.

University of Southern California, Los Angeles: **Wallace R. Muelder**, formerly superintendent of Palm Springs Unified School District, has been named associate professor of educational administration.

National College of Education, Evanston, Ill.: **Robert S. Topp**, dean of education, has resigned to accept a teaching position in the University of California, Santa Barbara.

Boston University, Mass.: **Theodore Brameld**, formerly of New York University, has been appointed professor in the school of education.

University of California, Riverside: **Arden K. Ruddell**, formerly of the University of Minnesota, has been named coordinator of the elementary teaching credential program.

University of Michigan, Ann Arbor: **John S. Brubacher**, formerly of Yale University, has been appointed professor of higher education.

University of Southern California, Los Angeles: **Stuart F. McComb**, coordinator of teacher-education projects since 1957, has resigned to become superintendent of Ranchito Elementary School District, Pico, Calif.

OTHER CHANGES AND APPOINTMENTS:

Arthur S. Flemming, formerly president Ohio Wesleyan University, Delaware, has succeeded **Marion B. Folsom**, resigned, as U. S. Secretary of Health, Education, and Welfare.

Virgil M. Hancher, president of State University of Iowa, has been appointed chairman of the Educational Policies Commission, succeeding **Herman B. Wells**, president of Indiana University. New members of the Commission are: **B. L. Dodds**, dean of the college of education, University of Illinois; **John Fischer**, superintendent, Baltimore, Md.; and **Henry I. Willett**, superintendent, Richmond, Va.

Edmund J. Gleazer, Jr., has been named executive director of the American Association of Junior Colleges, succeeding **Jesse P. Bogue**, now serving as consultant until August, 1959.

Harold P. Fawcett, Ohio State University, has been elected president of the National Council of Teachers of Mathematics.

David H. Russell, University of California at Berkeley, has been elected president of the American Educational Research Association, NEA, succeeding **Virgil E. Herrick**, University of Wisconsin.

William P. Fidler has succeeded **Robert K. Carr** as general secretary of the American Association of University Professors.

Austin J. McCaffrey, formerly state education commissioner for New Hampshire, has been appointed executive secretary of the American Textbook Publishers Institute.

Russell M. Cooper, University of Minnesota, has been elected president of the Association for Higher Education, succeeding **Paul G. Bulger**, Columbia University.

Arthur A. Hauck, retired presi-

dent of the University of Maine, has been named director of Washington International Center, administered by the American Council on Education.

Fred F. Beach has been appointed director of the school administration branch of the U. S. Office of Education, succeeding **E. Glenn Featherston,** now assistant commissioner for state and local school systems. Other recent Office of Education appointments are: **Ralph C. M. Flynt,** named successor to **Melvin W. Sneed** as director of the higher education programs branch; **John F. Hughes,** successor to **D. W. McKone,** retired, as head of the administrative management branch; **Frank L. Schick,** formerly of Wayne State University, named assistant director of library service branch; **Lillian L. Gore,** formerly of Montgomery County, Md., named specialist for early elementary education; and **Murray D. Thornburg,** formerly of North Carolina State College, named program specialist for trade and industrial education.

RECENT DEATHS:

George W. Frasier, former president of Colorado State College, Greeley, at the age of 67.

May Aldrich, secretary and director of the National Kindergarten Association of New York since it was founded in 1909, at the age of 80.

School Report Card

A REPORT card that rates school systems, not pupils, has been developed by the Associated Public School Systems, an organization, composed of 230 member schools, affiliated with the Institute of Administrative Research of Teachers College, Columbia University.

The measuring device is a 23-page check list now brought out in booklet form. It is based on information supplied by the 230 school systems. The report was prepared by John W. Polley, Orlando F. Furno, Willard A. Downie, Bernard McKenna, and Paul R. Mort. It is intended to show a community how its schools compare with others.

Grants for Experiments

THE Ford Foundation has announced grants for several experiments in the more effective use of teachers in public schools in the U. S.

A grant of $112,000 has been given to Goddard College, Plainfield, Vt., for an experiment by several colleges in the use of college students as classroom assistants and an experiment to improve science and mathematics teaching in rural areas of Vermont.

A grant of $350,000 was given to New York University. This will be used by the Experimental Teaching Center, a new unit in the university's school of education, to train teachers for, test, and evaluate an experimental program in Long Beach and Ossining schools. Pupils in these two schools will spend half their time with a homeroom teacher responsible for reading and social studies and the other half with a teaching team responsible for science, mathematics, and other specialized subjects.

A grant of $350,000 to the National Association of Secondary-School Principals will support sec-

ondary-school experiments designed to alleviate the teacher shortage and improve instruction by making the most effective use of the ablest teachers.

A grant of $140,000 was made to Yale University for recruitment and preparation of liberal-arts students for public-school teaching through a new Master of Arts in Teaching program.

Miami University, Oxford, Ohio, was given a grant of $65,000 for advanced course work for superior high-school students through the use of television.

For the Talented

A NEW consultant and clearinghouse service on the education of the academically talented has been announced by the NEA. Charles E. Bish, former principal of McKinley High School, Washington, D. C., has been named director of the three-year project, which got under way in August.

The new service is a follow-up of an NEA project earlier this year on the identification and education of the gifted. It will operate to provide consultant service, to keep a record of experimental and research projects, develop a collection of materials on the problem, develop plans for needed research, and organize study conferences on specialized topics. The project is being financed by a grant from the Carnegie Corporation.

The School of Tomorrow

PLANS for a College of Education Center, including a research center which will be an "elementary school of tomorrow" has been announced by the University of Wichita. Frank Lloyd Wright has been commissioned as architect for the campus project.

Building Research

HAROLD B. GORES, superintendent at Newton, Mass., has been named first president of the Educational Facilities Laboratories, the newly formed organization established with a $4.5 million grant from the Ford Foundation.

The new organization is concerned with research and experimentation in the whole field of educational grounds, buildings, and equipment. It will serve as an information clearinghouse, making its findings available to school and college administrators, architects, and citizen groups.

DATES OF THE MONTH:

Sept. 22-27, National Council for Schoolhouse Construction, Seattle, Wash.

DATES OF THE COMING MONTHS:

Oct. 5-9, Association of School Business Officials of the U. S. and Canada, New York City.

Oct. 10-15, Department of Rural Education, NEA, and Division of County and Rural Area Superintendents, NEA, Minneapolis, Minn.

Oct. 20-24, National Safety Congress, Chicago, Ill.

Nov. 2-3, Association of Urban Universities, Omaha, Neb.

Nov. 9-15, American Education Week.

Nov. 16-20, National Society for Crippled Children and Adults, Dallas, Tex.

New Educational Materials

Basic Concepts in Music Education; Education of the Gifted; and **The Integration of Educational Experiences.** Chicago: University of Chicago Press, 1958. Pp. xi + 362, xi + 420, and xi +278. $4.00 each.

These three volumes comprise the three parts of the 57th yearbook of the National Society for the Study of Education.

Basic Concepts in Music Education is designed to emphasize the emerging trend toward more effective orientation of instructional programs to accepted goals of formal education. The 15 chapters, written by authorities in the field, cover both disciplinary backgrounds and music instruction relating to various features of accredited school programs.

The volume on *Education for the Gifted* is the third N.S.S.E. yearbook to be devoted to the subject. This volume, in addition to covering the importance of the subject and the history of interest in the gifted, discusses the nature of giftedness, motivation of the gifted, and then devotes a section to programs for the gifted in elementary and secondary schools and in higher education. Chapters are also devoted to guidance of the gifted, the preparation of teachers for the gifted, and community factors in the education of the gifted.

Authors of articles in the volume include such well-known authorities as Robert J. Havighurst, Paul Witty, Ruth Strang, Robert F. DeHaan, A. Harry Passow, Clifford W. Williams, and Morris Meister.

The Integration of Educational Experiences places strong emphasis throughout the volume on the idea that the all-important process in achieving an integrated education is the learner's own integration of the materials he has learned.

The book is divided into four sections discussing the nature of integration, integration in relation to educational aims and procedures, characteristics of integration at different levels, and implications.

Learning to Teach; A Handbook for Beginners. Mary Warren Muldoon. New York: Harper & Brothers, 1958. Pp. xiii + 287. $3.50.

This "how-to-do-it" book is intended to help young teachers doing their first two or three years of teaching in upper elementary grades or high school.

The author, whose long teaching career culminated in 22 years as principal of the Waverly, N.Y., Junior-High School (now named after her), draws upon her experience to present plans which have worked in actual practice. Technical terms and wording are avoided and emphasis is placed on ethical procedure, careful planning, and continuous selfcriticism.

The book presents an orderly procedure for organizing a home room, discusses the laying out of lesson plans, arousing and maintaining student interest, methods for teaching students to use texts and develop good study habits, and discusses ways of handling individual and remedial instruction.

Orthopsychiatry and the School. Edited by Morris Krugman. New York: American Orthopsychiatric Association, Inc., 1958. Pp. xii + 265. $4.00.

This book contains 26 articles arranged into five sections: ortho-

psychiatry's help to education; orthopsychiatry and the problems of learning; orthopsychiatry and school mental health; and orthopsychiatry and adolescent problems.

Orthopsychiatry is based on a multidiscipline approach with the usual team consisting of psychiatrist, psychologists, and psychiatric social workers. The book is designed to show the value and use of orthopsychiatry to the schools. The purpose, as the editor points out in his introduction, was not to present a "unified point of view in the articles selected, but rather to portray a wide variety of approaches in different situations so that the reader will be in a position to weigh and evaluate different programs and to draw from them suggestions and practices that may be applicable or useful for a specific situation."

What's Happened to Our High Schools? John Francis Latimer. Washington, D.C.: Public Affairs Press, 1958. Pp. vi + 196. $3.25.

This study, which was begun four years ago, attempts to present some fundamental facts about our education system that will, the author hopes, help us to understand our present educational problems more clearly. It centers mainly on the high-school curriculum. It traces the changes that have taken place in high-school studies primarily since 1890, and relates to those changes student enrolments in the various subjects.

Dr. Latimer, who is assistant dean of faculties at George Washington University, presents in the final chapter his views of what should be done to improve the education in our schools. He states that the cold war and the Sputnik era have taught us that the Committee of Ten in 1894 was right: Education that stresses and combines mental discipline and cultural values is not only the best but in the long run the most practical.

He declares that the proper solution for the slow learner is not the notion of "easier" subject matter. It lies rather in the development and use of special texts and teaching methods and in grouping according to ability that will give the less gifted an education that will differ in quantity, not in kind. The main core of subjects around which coordinated courses of study for all students, regardless of ability, should be built, he states, consists of mathematics, science, foreign languages, history, and one's native tongue.

Tender Warriors. Dorothy Sterling and Donald Gross. New York: Hill and Wang, 1958. Pp. 96. $1.50, paper bound; $2.50, cloth.

The school children of the South are the tender warriors of this book. In words and pictures it tells how these children, both negro and white, their parents, and teachers are affected by the Supreme Court decision on integration in the schools.

The book records the actual interviews by Mrs. Sterling on a recent trip through the South, including visits to Clinton, Tenn.; Clay, Ky.; Little Rock, Ark.; and Louisville, Ky. Dramatic photographs are by Myron Enhrenberg.

Soviet Education. Edited by George L. Kline. New York: Columbia University Press, 1957. Pp. x + 192. $3.50.

This book consists of nine firsthand reports by former Soviet teachers and students. It provides an insight into the day-by-day func-

tioning of the Soviet educational system during the 1920's, 1930's, and early 1940's.

The essays cover all phases of the educational scene from nursery school to secondary school and university. The function of political and para-military organizations in student life, the role of "socially useful activities," and the place of antireligious propaganda and agitation are fully discussed. The book makes clear the impact on classroom instruction and student discipline of the drastic shifts in educational policy and teaching methods.

Values in Culture and Classroom; A Study in the Sociology of the School. H. Otto Dahlke. New York: Harper & Brothers, 1958. Pp. xvii + 572. $6.00.

This book examines the school in terms of a consistent frame of reference: values and actions, their institutional expression, and the consequent social relations.

Comprehensive coverage is given the setting for the educational process and the school, the institutional order and structure of the school, the informal organization of the school, what education means from the point of view of the pupil and teacher, and the vocation and bureaucratic setting of teaching.

The author also devotes a section to a discussion of the school in the center of controversy in terms of pressure groups and in terms of legal or court action.

OTHER MATERIALS RECEIVED:

ELEMENTARY

Young People's Book of Science. Glen O. Blough. New York: Whittlesey House Books for Young People, McGraw-Hill Book Company, Inc., 1958. Pp. 446. $4.50.

Electricity and Magnetism. J. Myron Atkin and R. Will Burnet. New York: Rinehart & Company, Inc., 1958. Pp. v + 58. $1.00. One of the Elementary School Science Activities series.

From Letters to Words, 2[1]; A Text-Workbook for Reading with Phonics. (Revised Edition). Julie Hay, Charles E. Wingo, and Mary C. Hletko. Chicago: J. B. Lippincott Company, 1958. Pp. 102. $.96.

Snow Tracks. Jean George. New York: E. P. Dutton & Co., Inc., 1958. Pp. 61. $2.50. A child's introduction to the stories to be read on the surface of the snow.

Planning and Organizing Science Programs in Elementary Schools; A Teacher's Guide. Martha Glauber Shapp. New York: The Grolier Society, Inc., 1958. Pp. 80.

SECONDARY

Be a Better Reader. Book II and Book III. Nila Banton Smith. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1958. Pp. 129. $1.32 each. Designed for skill development in reading literature, social studies, science, and mathematics.

Using Your Language. Book 4. Verda Evans. New York: McGraw-Hill Book Company, Inc., 1958. Pp. 192. $1.48. For seniors in high school.

Chemical Calculations. (Third Edition.) Bernard Jaffe. Yonkers-on-Hudson, N. Y.: World Book Company, 1958. Pp. xii + 180. $2.20. Contains 1000 problems arranged progressively according to lesson assignments.

Farm Management. Lynn S. Robertson. Chicago: J. B. Lippincott Company, 1958. Pp. xv + 445. $4.40.

The Art of Dating. Evelyn Millis Duvall. New York: Association Press, 1958. Pp. 254. $2.50.

Biology for You. (Fourth Edition.) B. B. Vance and D. F. Miller. Chicago: J. B. Lippincott Company, 1958. Pp. x + 654. $4.80.

Sales Horizons. Kenneth B. Haas and Enos C. Perry. Englewood Cliffs, N. J.: Prentice Hall, Inc., 1958. Pp. ix + 404. $3.56. Text in salesmanship and retailing.

Living World History. T. Walter Wallbank and Arnold Fletcher. Chicago: Scott, Foresman and Company, 1958. Pp. 768. $4.88. Contains 15-page full-color map section.

COLLEGE

How to Win a College Scholarship. David R. Turner and Harry A. Tarr. New York: Arco Publishing Company, Inc., 1958. Pp. 572. $3.00.

Planning for Teaching; An Introduction to Education. (Second Edition.) Robert W. Richey. New York: McGraw-Hill Book Company, Inc., 1958. Pp. xv + 550. $6.00.

Statistical Analysis. (Revised Edition.) Allen L. Edwards. New York: Rinehart & Company, Inc., 1958. Pp. xii + 234. $4.00. **Workbook.** Pp. 84. $1.25. Text and workbook together, $5.00.

GUIDANCE

There's Adventure in Chemistry, There's Adventure in Electronics, and **There's Adventure in Atomic Energy.** Julian May. Chicago: Popular Mechanics Press, 1957. Pp. 156, 170, and 174. $2.50 each.

Administration and Organization of the Guidance Program. Dean C. Andrew and Roy D. Willey. New York: Harper & Brothers, 1958. Pp. xii + 330. $4.50. A text for advanced courses in guidance.

A Guide to Engineering Education. Frank W. Eller. New York: Bureau of Publications, Teachers College, Columbia University, 1958. Pp. x + 45. $1.00. A Science Manpower Project monograph.

GENERAL

Emotional Dynamics and Group Culture; Experimental Studies of Individual and Group Behavior. Dorothy Stock and Herbert A. Thelen. New York: New York University Press, 1958. Pp. xviii + 296. $6.00. Published for the National Training Laboratories.

Astronomy Handbook. Leon Augustus Hausman. New York: Arco Publishing Company, Inc., 1958. Pp. 142. $2.00.

Records for Farm Management. John A. Hopkins and Deane A. Turner. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1958. Pp. xiii + 218. $4.00.

The Teaching of Geography. Zoe A. Thralls. New York: Appleton-Century-Crofts, 1958. Pp. 339. $3.75.

Law for the Public Speaker. George P. Rice. Boston: Christopher Publishing House, 1958. Pp. 189. $2.75. Legal aspects of public address.

Book of Indian Life Crafts. Oscar E. Norbeck. New York: Association Press, 1958. Pp. 253. $5.95.

AUDIO-VISUALS

Educators Guide to Free Films. (Eighteenth Edition). Randolph, Wis.: Educators Progress Service, 1958. Pp. xii + 616. $7.00. Lists 4013 titles of films, 741 of which were not listed in the previous edition.

Voices of the Satellites. A single, two-side LP record of sounds and signals from the satellites recorded and explained by Thomas A. Benham of Haverford College. Available from Taben Recordings, Box 224, Ardmore, Pa. $3.95.

Clear-A-Slide Kit. A kit of supplies that enable teachers to make color transparencies with colored pencils on vinyl sheets. Information available from Charles Beseler Company, 219 S. 18th St., East Orange, N. J.

Latin American Exhibits. A listing of arts, color slides, filmstrips, and supplementary visual aids available on loan basis from Pan American Union, Washington 6, D. C.

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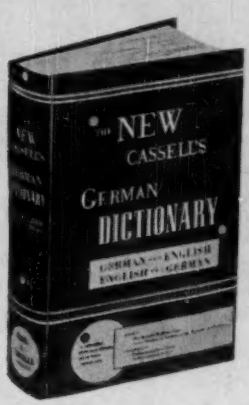

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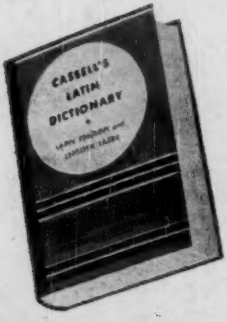

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